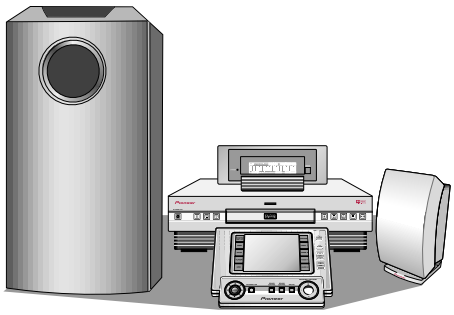
# Service Manual



ORDER NO.
**RRV2076**

## DVD SURROUND SYSTEM
# HTZ-7
## DVD CENTER UNIT
# HTZ-C7
## POWERED SUBWOOFER
# HTZ-SW7

**THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).**

| Type | Model | Power Requirement | Remarks |
|---|---|---|---|
| | HTZ-7 | | |
| KU/CA | ○ | AC120V | |

- **This product is a system(s) component.**
  **This product does not function properly when independent; to avoid malfunctions, be sure to connect it to the prescribed system component(s), otherwise damage may result.**
- **HTZ-7 is a combination of the following components.**
  **DVD SURROUND SYSTEM (HTZ-7)** — **DVD CENTER UNIT (HTZ-C7)**
  **POWERED SUBWOOFER (HTZ-SW7)**
  **AMP ASSY (A-SW7)**

## CONTENTS


1. SAFETY INFORMATION ..... 2
2. EXPLODED VIEWS AND PARTS LIST ..... 3
3. SCHEMATIC DIAGRAM ..... 19
4. PCB CONNECTION DIAGRAM ..... 54
5. PCB PARTS LIST ..... 79
6. ADJUSTMENT ..... 90
7. GENERAL INFORMATION ..... 99
   7.1 PARTS ..... 99
      7.1.1 IC ..... 99
      7.1.2 DISPLAY ..... 105
   7.2 DIAGNOSIS ..... 106
      7.2.1 FAIL-SAFE ..... 106
      7.2.2 SINGLE UNIT OPERATION METHODS .. 107
      7.2.3 DISASSEMBLY ..... 109
      7.2.4 TEST MODE ..... 114
   7.3 BLOCK DIAGRAM ..... 118
   7.4 REMOTE CONTROL UNIT ..... 120
      7.4.1 EXPLODED VIEWS AND PARTS LIST ... 120
      7.4.2 SCHEMATIC DIAGRAM ..... 122
8. PANEL FACILITIES AND SPECIFICATIONS ..... 123



**PIONEER ELECTRONIC CORPORATION** 4-1, Meguro 1-Chome, Meguro-ku, Tokyo 153-8654, Japan
**PIONEER ELECTRONICS SERVICE, INC.** P.O. Box 1760, Long Beach, CA 90801-1760, U.S.A.
**PIONEER ELECTRONIC (EUROPE) N.V.** Haven 1087, Keetberglaan 1, 9120 Melsele, Belgium
**PIONEER ELECTRONICS ASIACENTRE PTE. LTD.** 253 Alexandra Road, #04-01, Singapore 159936


**© PIONEER ELECTRONIC CORPORATION 1999**



T–DZY JAN. 1999 Printed in Japan

# 1. SAFETY INFORMATION

**This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.**
**Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.**

WARNING
This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 – Proposition 65

NOTICE
(FOR CANADIAN MODEL ONLY)
Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE
(POUR MODÈLE CANADIEN SEULEMENT)
Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

IMPORTANT
THIS PIONEER APPARATUS CONTAINS LASER OF CLASS 1.
SERVICING OPERATION OF THE APPARATUS SHOULD BE DONE BY A SPECIALLY INSTRUCTED PERSON.

LASER DIODE CHARACTERISTICS
MAXIMUM OUTPUT POWER: 7 mw
WAVELENGTH: 650 nm

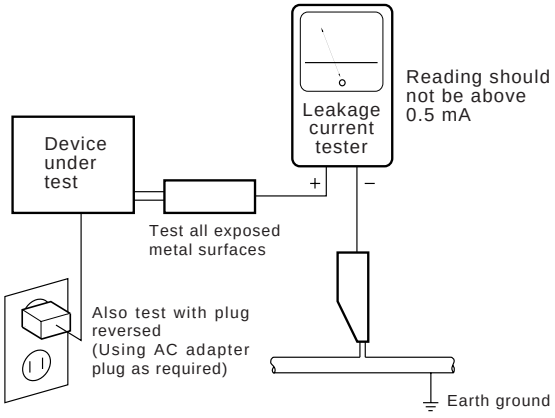
## (FOR USA MODEL ONLY)

### 1. SAFETY PRECAUTIONS

The following check should be performed for the continued protection of the customer and service technician.

**LEAKAGE CURRENT CHECK**

Measure leakage current to a known earth ground (water pipe, conduit, etc.) by connecting a leakage current tester such as Simpson Model 229-2 or equivalent between the earth ground and all exposed metal parts of the appliance (input/output terminals, screwheads, metal overlays, control shaft, etc.). Plug the AC line cord of the appliance directly into a 120V AC 60 Hz outlet and turn the AC power switch on. Any current measured must not exceed 0.5 mA.


Leakage current tester
Reading should not be above 0.5 mA
Device under test
+
–
Test all exposed metal surfaces
Also test with plug reversed (Using AC adapter plug as required)
Earth ground

AC Leakage Test

**ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.**

### 2. PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in the appliance have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for voltage, wattage , etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a ⚠ on the schematics and on the parts list in this Service Manual.
The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire, or other hazards.

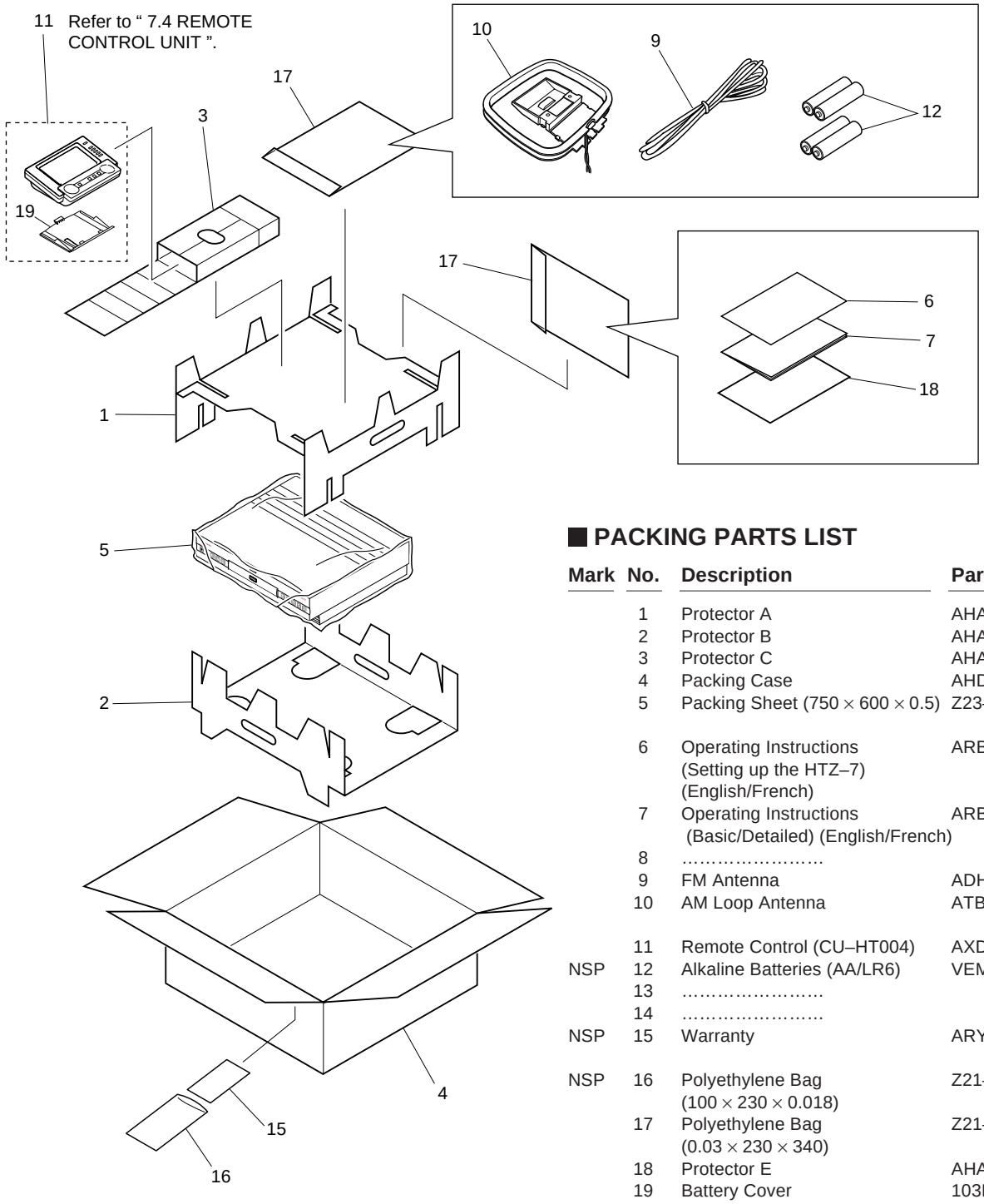
Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

# 2. EXPLODED VIEWS AND PARTS LIST

*NOTES :*
- *Parts marked by " NSP " are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *Screw adjacent to ▼ mark on the product are used for disassembly.*

## 2.1 DVD CENTER UNIT (HTZ-C7)

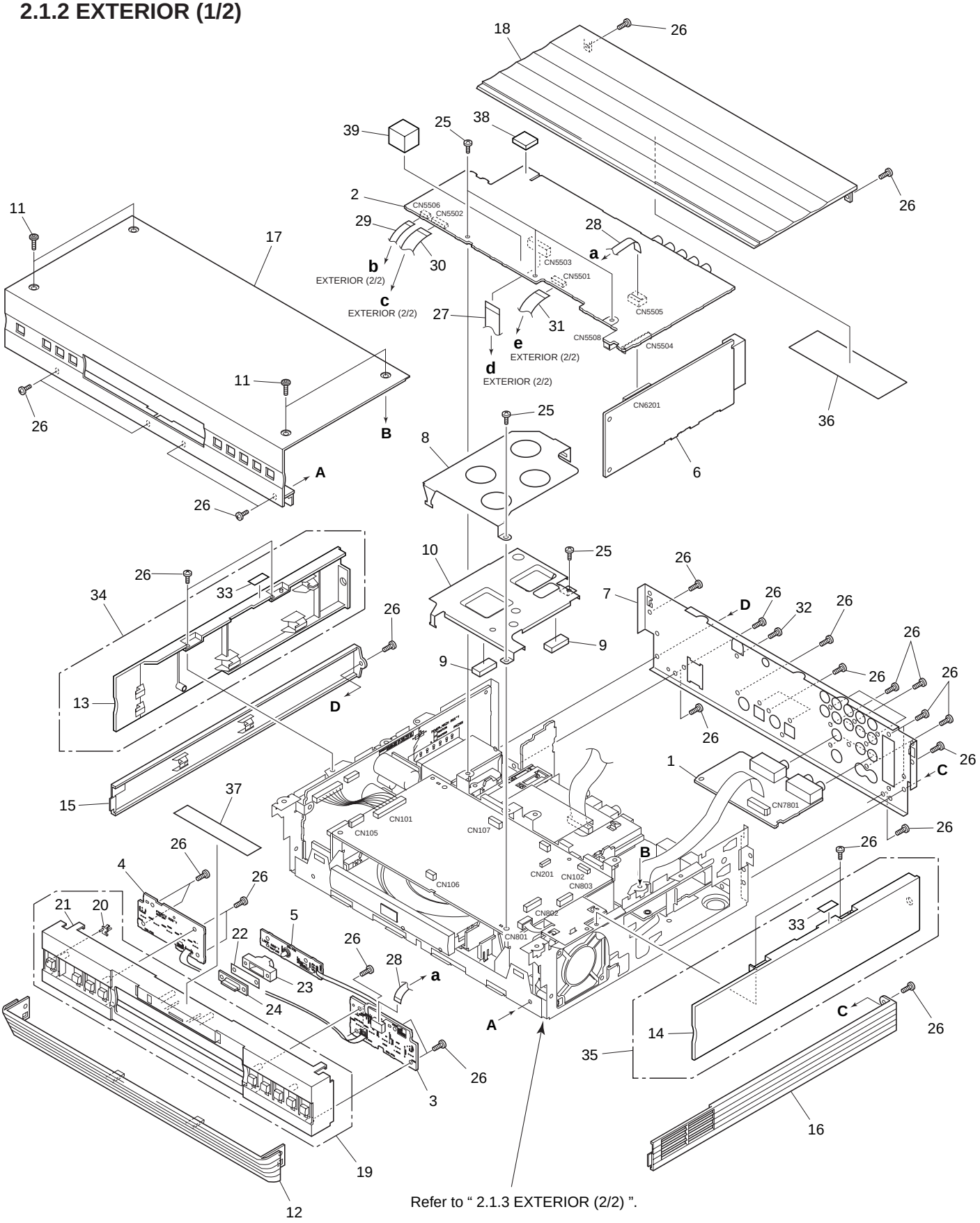
### 2.1.1 PACKING




### ■ PACKING PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Protector A | AHA7242 |
| | 2 | Protector B | AHA7257 |
| | 3 | Protector C | AHA7244 |
| | 4 | Packing Case | AHD7741 |
| | 5 | Packing Sheet (750 × 600 × 0.5) | Z23–007 |
| | 6 | Operating Instructions (Setting up the HTZ–7) (English/French) | ARB7174 |
| | 7 | Operating Instructions (Basic/Detailed) (English/French) | ARB7175 |
| | 8 | …… | |
| | 9 | FM Antenna | ADH7004 |
| | 10 | AM Loop Antenna | ATB7009 |
| | 11 | Remote Control (CU–HT004) | AXD7189 |
| NSP | 12 | Alkaline Batteries (AA/LR6) | VEM1012 |
| | 13 | …… | |
| | 14 | …… | |
| NSP | 15 | Warranty | ARY7023 |
| NSP | 16 | Polyethylene Bag (100 × 230 × 0.018) | Z21–010 |
| | 17 | Polyethylene Bag (0.03 × 230 × 340) | Z21–038 |
| | 18 | Protector E | AHA7258 |
| | 19 | Battery Cover | 103RRC14701R |

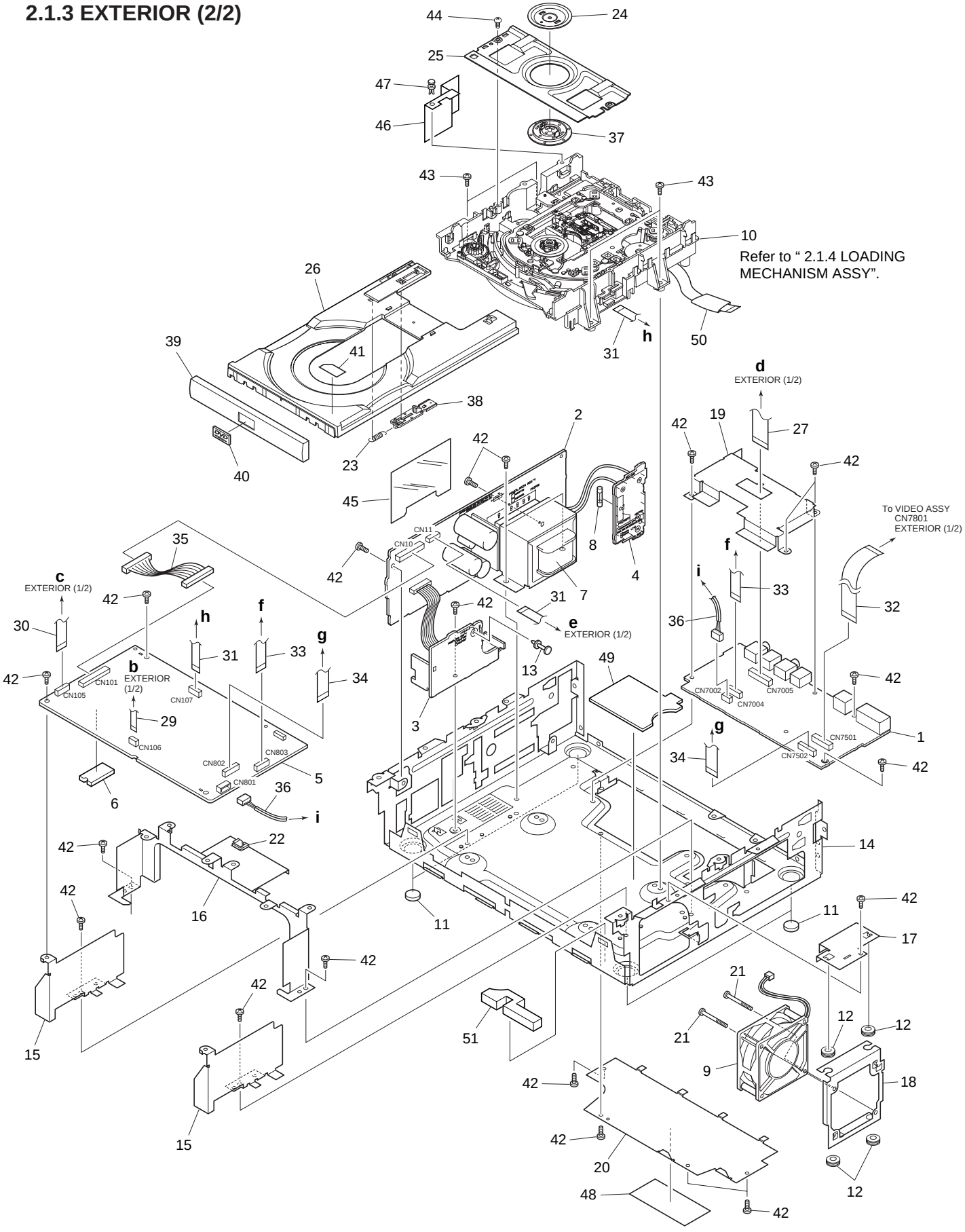
## 2.1.2 EXTERIOR (1/2)



## ■ EXTERIOR (1/2) PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | VIDEO ASSY | AWU7284 |
| | 2 | MOTHER ASSY | AWU7285 |
| | 3 | FRONT (1) ASSY | AWU7163 |
| | 4 | FRONT (2) ASSY | AWU7164 |
| | 5 | LAMP ASSY | AWU7165 |
| | 6 | FM/AM TUNER MODULE | AXQ7065 |
| | 7 | Rear Panel | ANC7814 |
| | 8 | FCC Holder | ANG7231 |
| | 9 | Radiation Sheet | VEB1285 |
| | 10 | Heat Sink | VNE2134 |
| | 11 | Screw | ABA7048 |
| | 12 | Front Skirt | AMB7528 |
| NSP | 13 | Side Panel L | AMB7615 |
| NSP | 14 | Side Panel R | AMB7616 |
| | 15 | Side Skirt L | AMB7532 |
| | 16 | Side Skirt R | AMB7533 |
| | 17 | Front Alumi | ANB7136 |
| | 18 | Top Alumi | ANB7137 |
| | 19 | Panel Base Assy | AXG7069 |
| NSP | 20 | LED Lens | AAK7581 |
| NSP | 21 | Panel Base | AMB7526 |
| | 22 | Illumination Filter | VEC1950 |
| | 23 | Illumination Holder | VNK4098 |
| | 24 | Illumination Lens | VNK4168 |
| | 25 | Screw | BBZ30P060FMC |
| | 26 | Screw | BBZ30P100FZK |
| | 27 | 17P FFC/60V (CN5503 ⟷ CN7005) | ADD7108 |
| | 28 | 7P FFC/60V (CN5901 ⟷ CN5505) | ADD7115 |
| | 29 | 7P FFC/60V (CN106 ⟷ CN5506) | ADD7137 |
| | 30 | 14P FFC/60V (CN105 ⟷ CN5502) | ADD7138 |
| | 31 | 12P FFC/60V (CN301 ⟷ CN107, CN5501 ⟷ CN11) | ADD7139 |
| | 32 | Screw (3 × 8) | ABA7050 |
| NSP | 33 | Tape | AEB7143 |
| | 34 | Side Panel L Assy | AXG7073 |
| | 35 | Side Panel R Assy | AXG7074 |
| | 36 | 65 Label | ARW7050 |
| | 37 | Fuse Caution Label | ARW7051 |
| | 38 | Cushion E | AEB7140 |
| | 39 | Cushion D | AEB7139 |

## 2.1.3 EXTERIOR (2/2)

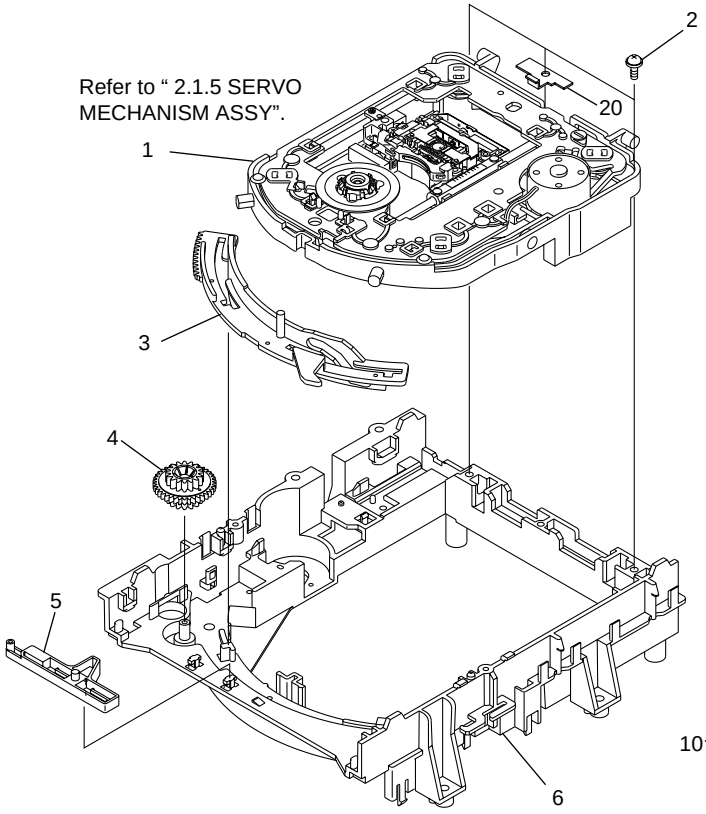


## ■ EXTERIOR (1/2) PARTS LIST

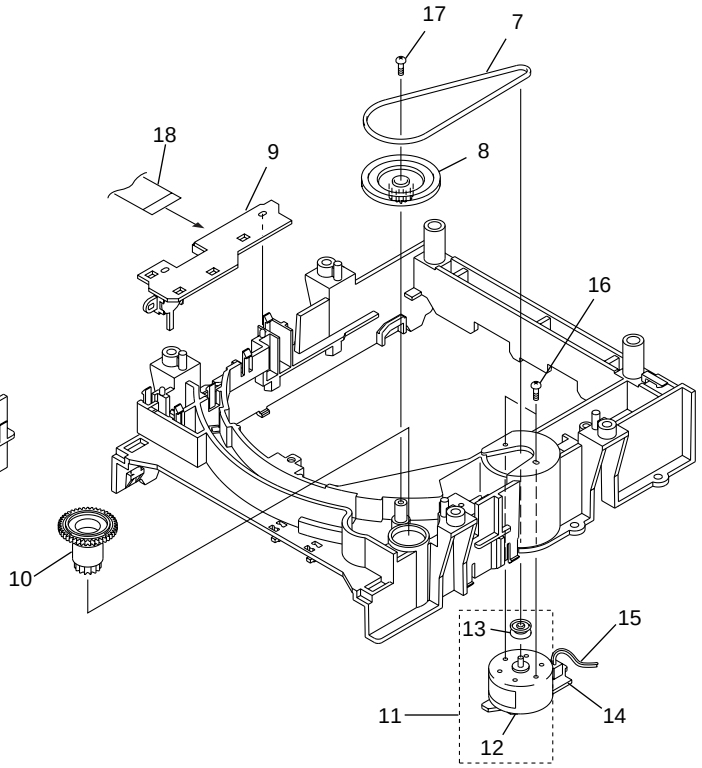
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | SVIDEO ASSY | AWU7283 |
| | 2 | POWER MAIN ASSY | AWU7286 |
| | 3 | POWER SUB ASSY | AWU7287 |
| | 4 | AC ASSY | AWU7288 |
| | 5 | DVDM ASSY | VWS1364 |
| | 6 | FLASH ROM (IC6003) | VYW1570 |
| ⚠ | 7 | Power Transformer (T1) | ATS7238 |
| ⚠ | 8 | Fuse (1A/125V, FU1) | REK1075 |
| | 9 | Fan Motor | AXM1019 |
| NSP | 10 | Loading Mechanism Assy | VWT1147 |
| | 11 | Leg | AEB7090 |
| | 12 | Rubber Bush | AEB7134 |
| NSP | 13 | PCB Spacer (3 × 12) | AEC1372 |
| NSP | 14 | Chassis | ANA7075 |
| | 15 | PCB Holder (A) | ANG7202 |
| | 16 | PCB Holder (B) | ANG7206 |
| | 17 | Fan Cover | ANG7208 |
| | 18 | Fan Holder | ANG7230 |
| | 19 | Shield Case | ANK7046 |
| | 20 | Cover | ANK7047 |
| | 21 | Screw | BBZ30P300FZK |
| NSP | 22 | Edging Saddle (S) | DEC1761 |
| | 23 | Tray Spring | VBH1277 |
| | 24 | Clamper Plate | VNE2068 |
| | 25 | Bridge | VNE2069 |
| | 26 | Tray | VNL1731 |
| | 27 | 17P FFC/60V (CN5503 ⟷ CN7005) | ADD7108 |
| | 28 | …… | |
| | 29 | 7P FFC/60V (CN106 ⟷ CN5506) | ADD7137 |
| | 30 | 14P FFC/60V (CN105 ⟷ CN5502) | ADD7138 |
| | 31 | 12P FFC/60V (CN301 ⟷ CN107, CN5501 ⟷ CN11) | ADD7139 |
| | 32 | 7P FFC/60V (CN7801 ⟷ CN7501) | ADD7109 |
| | 33 | 17P FFC/60V (CN802 ⟷ CN7502) | ADD7111 |
| | 34 | 14P FFC/60V (CN803 ⟷ CN7004) | ADD7112 |
| | 35 | Housing Assy (14P) (CN101 ⟷ CN10) | AKP7033 |
| | 36 | 4P Connector (CN801 ⟷ CN7002) | AKP7046 |
| | 37 | Clamper | VNL1738 |
| | 38 | Tray Stopper | VNL1739 |
| | 39 | Tray Panel | AMB7534 |
| | 40 | DVD Badge | VAM1076 |
| | 41 | Tray Label | VRW1628 |
| | 42 | Screw | BBZ30P060FMC |
| | 43 | Screw | BBZ30P100FZK |
| | 44 | Screw | BPZ26P080FZK |
| | 45 | Insulation Sheet B | AEC7186 |
| | 46 | Insulation Sheet | AEC7187 |
| | 47 | Nylon Rivet (3 × 4.5) | RBM–003 |
| | 48 | Label | ARW7048 |
| | 49 | Cushion F | AEB7141 |
| | 50 | Cushion G | AEB7142 |
| | 51 | Spacer | AEB7151 |

## 2.1.4 LOADING MECHANISM ASSY

● **Top View**




● **Bottom View**



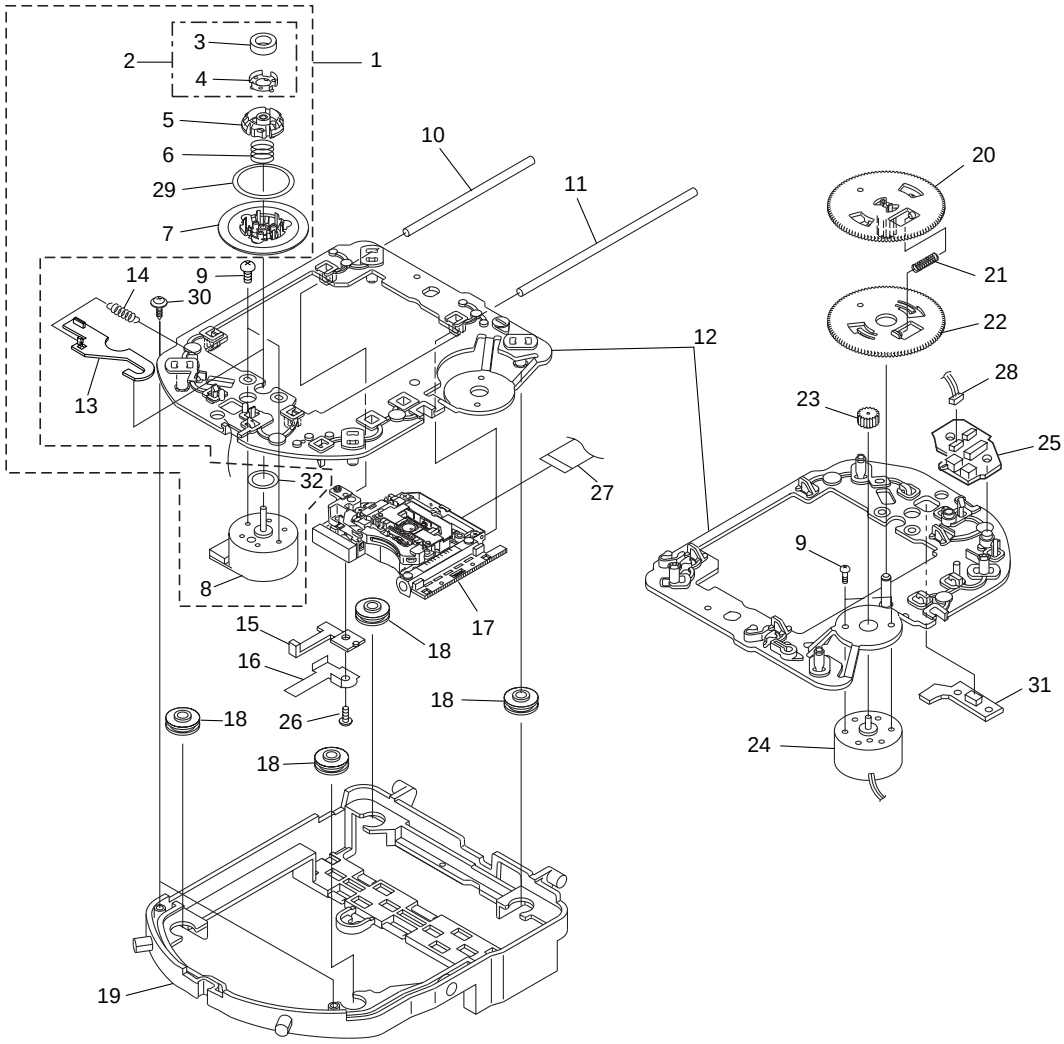

### ■ LOADING MECHANISM ASSY PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Servo Mechanism Assy-S | VXX2538 |
| | 2 | Screw | DBA1006 |
| | 3 | Drive Cam | VNL1736 |
| | 4 | Drive Gear | VNL1735 |
| | 5 | Lock Plate | VNL1820 |
| | 6 | Loading Base | VNL1730 |
| | 7 | Rubber Belt | VEB1260 |
| | 8 | Gear Pulley | VNL1733 |
| NSP | 9 | LOSB Assy | VWG1885 |
| | 10 | Loading Gear | VNL1734 |
| | 11 | Loading Motor Assy | VXX2505 |
| | 12 | DC Motor | PXM1027 |
| | 13 | Motor Pulley | PNW1634 |
| NSP | 14 | LOMB Assy | VWG1886 |
| | 15 | Connector Assy (2P) (LOMB CN401 ⟷ LOSB CN303) | VKP2198 |
| | 16 | Screw | VBA1055 |
| | 17 | Screw | Z39–019 |
| | 18 | Flexible Cable (8P) (LOSB CN302 ⟷ INSB CN202) | VDA1649 |
| | 19 | …… | |
| | 20 | Stopper | DNH2076 |

## 2.1.5 SERVO MECHANISM ASSY

● Top View

● Bottom View

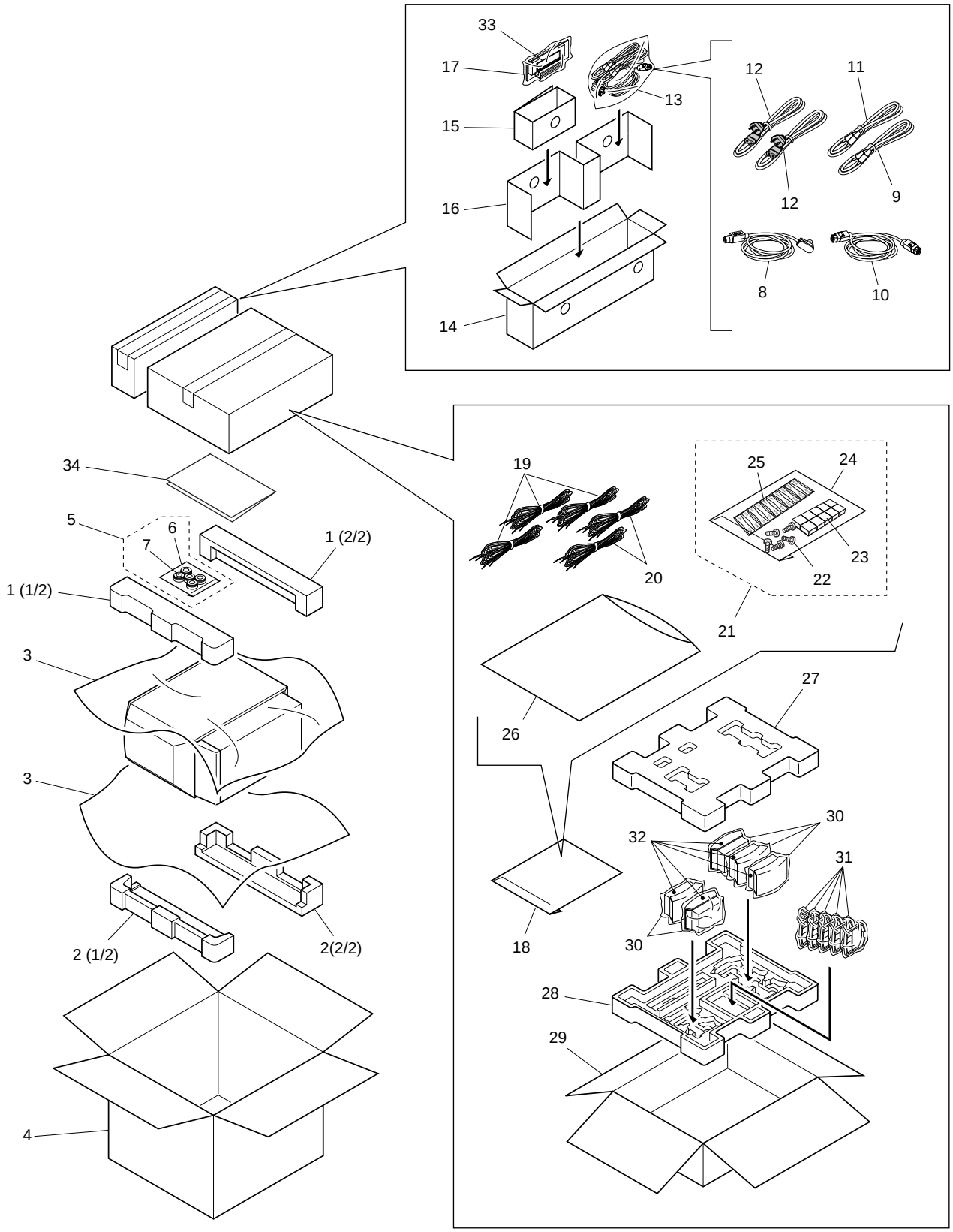



## ■ SERVO MECHANISM ASSY PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Spindle Motor Assy | VXX2563 |
| | 2 | Magnet Holder Assy | VXX2507 |
| NSP | 3 | Magnet | VYM1024 |
| NSP | 4 | Magnet Holder | VNE2070 |
| | 5 | Centering Ring | VNL1746 |
| | 6 | Centering Spring | VBH1278 |
| NSP | 7 | Disc Table | VNL1747 |
| NSP | 8 | Motor | VXM1071 |
| | 9 | Screw | JGZ17P028FMC |
| | 10 | Sub Guide Bar | VLL1489 |
| | 11 | Guide Bar | VLL1488 |
| | 12 | Mechanism Base | VNL1748 |
| | 13 | Hook | VNL1770 |
| | 14 | Hook Spring | VBH1291 |
| | 15 | Slider | VNL1745 |
| | 16 | Hold Spring | VNC1011 |
| | 17 | Pickup Assy | VWY1046 |
| | 18 | Floating Rubber | DEB1315 |
| | 19 | Float Base | VNL1732 |
| | 20 | Gear D | VNL1766 |
| | 21 | Gear Spring | VBH1306 |
| | 22 | Gear E | VNL1767 |
| | 23 | Gear F | VNL1768 |
| | 24 | Motor | VXM1062 |
| NSP | 25 | INSB Assy | VWG1883 |
| | 26 | Screw | PBZ20P050FMC |
| | 27 | Flexible Cable (20P) (DVDM CN102 ⟷ Pickup Assy) | VDA1680 |
| | 28 | Connector Assy (3P) (INSB CN201 ⟷ FGSB CN101) | VKP2150 |
| | 29 | Table Sheet | DEC2040 |
| | 30 | Screw | PBA1048 |
| NSP | 31 | FGSB Assy | VWG1884 |
| NSP | 32 | Sheet | VEC1959 |

## 2.2 POWERED SUBWOOFER (HTZ-SW7)

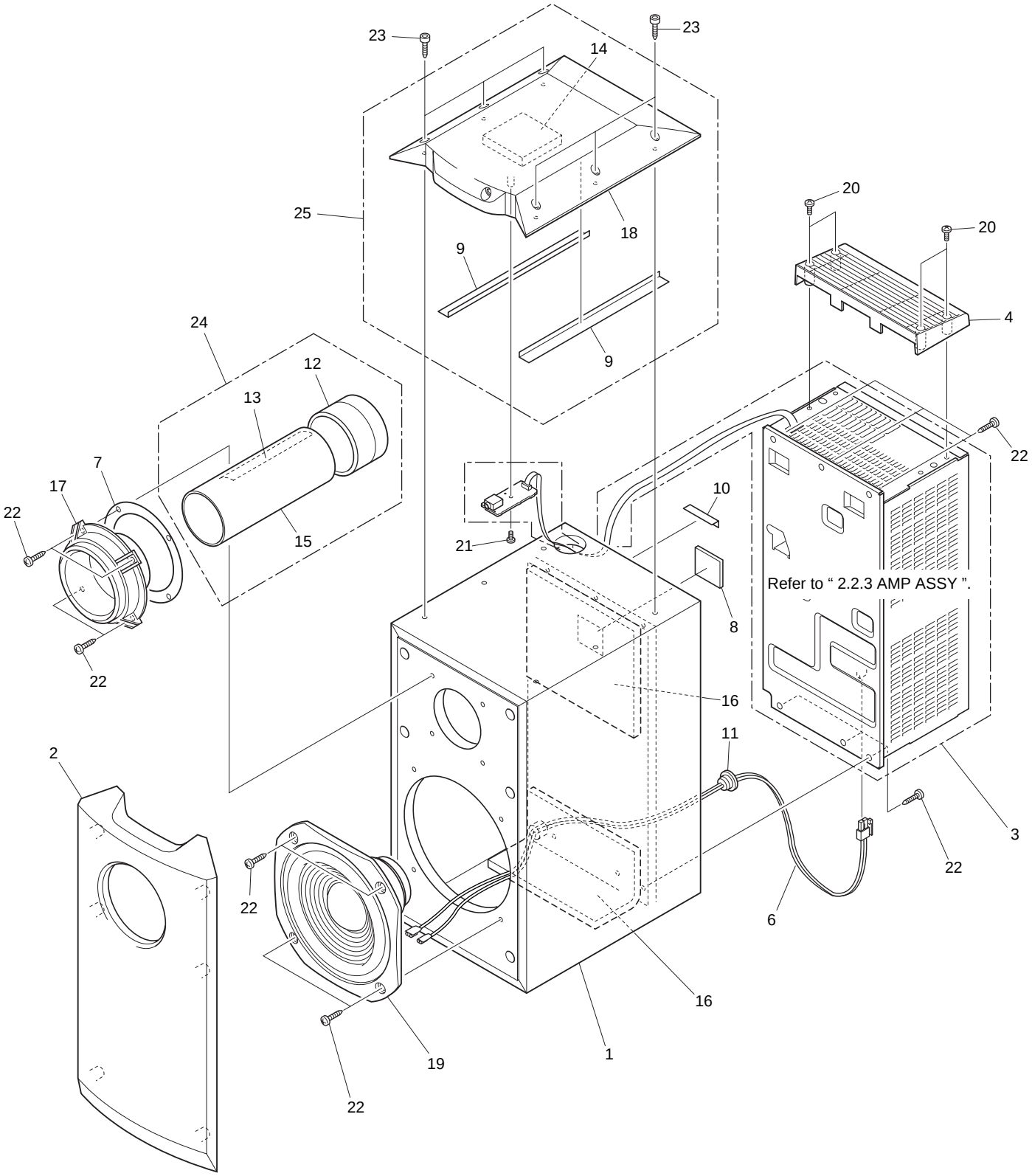
### 2.2.1 PACKING



## ■ PACKING PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Protector (L) | SHA2138 |
| | 2 | Protector (R) | SHA2139 |
| | 3 | Packing Sheet | SHC1723 |
| | 4 | Packing Case | SHG2197 |
| NSP | 5 | Cushion Set | SEA1528 |
| NSP | 6 | Polyethylene Bag | SHL–051 |
| | 7 | Leg | SXK1046 |
| | 8 | Display Cable (L= 3m) | ADE7027 |
| | 9 | Digital Audio Cable (L= 3m) | ADE7028 |
| | 10 | Control Cable (L= 3m) | ADE7031 |
| | 11 | Video Cable (L= 3m) | ADE7036 |
| ⚠ | 12 | AC Power Cord | ADG7021 |
| | 13 | Polyethylene Bag (0.03 × 230 × 340) | Z21–038 |
| | 14 | Packing Case (for Accessories) | AHD7650 |
| | 15 | Packing Case (for Display Unit) | AHD7651 |
| | 16 | Spacer | AHD7652 |
| | 17 | Packing Sheet | RHC1052 |
| NSP | 18 | Accessory Kit | SEA1534 |
| | 19 | Speaker Cords (5m × 3) | SDS1065 |
| NSP | 20 | Speaker Cords (10m × 2) | SDS1066 |
| NSP | 21 | Screw Package | SEA1530 |
| | 22 | Installation Screws | BMZ40P120FMC |
| | 23 | Non Skid Pads | SEP1189 |
| NSP | 24 | Polyethylene Bag S1 | SHL1225 |
| | 25 | Cord Labels | SRW1066 |
| NSP | 26 | Polyethylene Bag S2 | SHL1223 |
| | 27 | Top Protector | SHA2134 |
| | 28 | Bottom Protector | SHA2135 |
| | 29 | Packing Case | SHG2198 |
| NSP | 30 | Polyethylene Bag S2 | SHL1224 |
| NSP | 31 | Polyethylene Bag S1 | SHL1225 |
| NSP | 32 | Satellite Speakers | HTZ–ST7 |
| NSP | 33 | Display Unit | DU–HT7 |
| | 34 | Caution Card | ARB7190 |

## 2.2.2 EXTERIOR

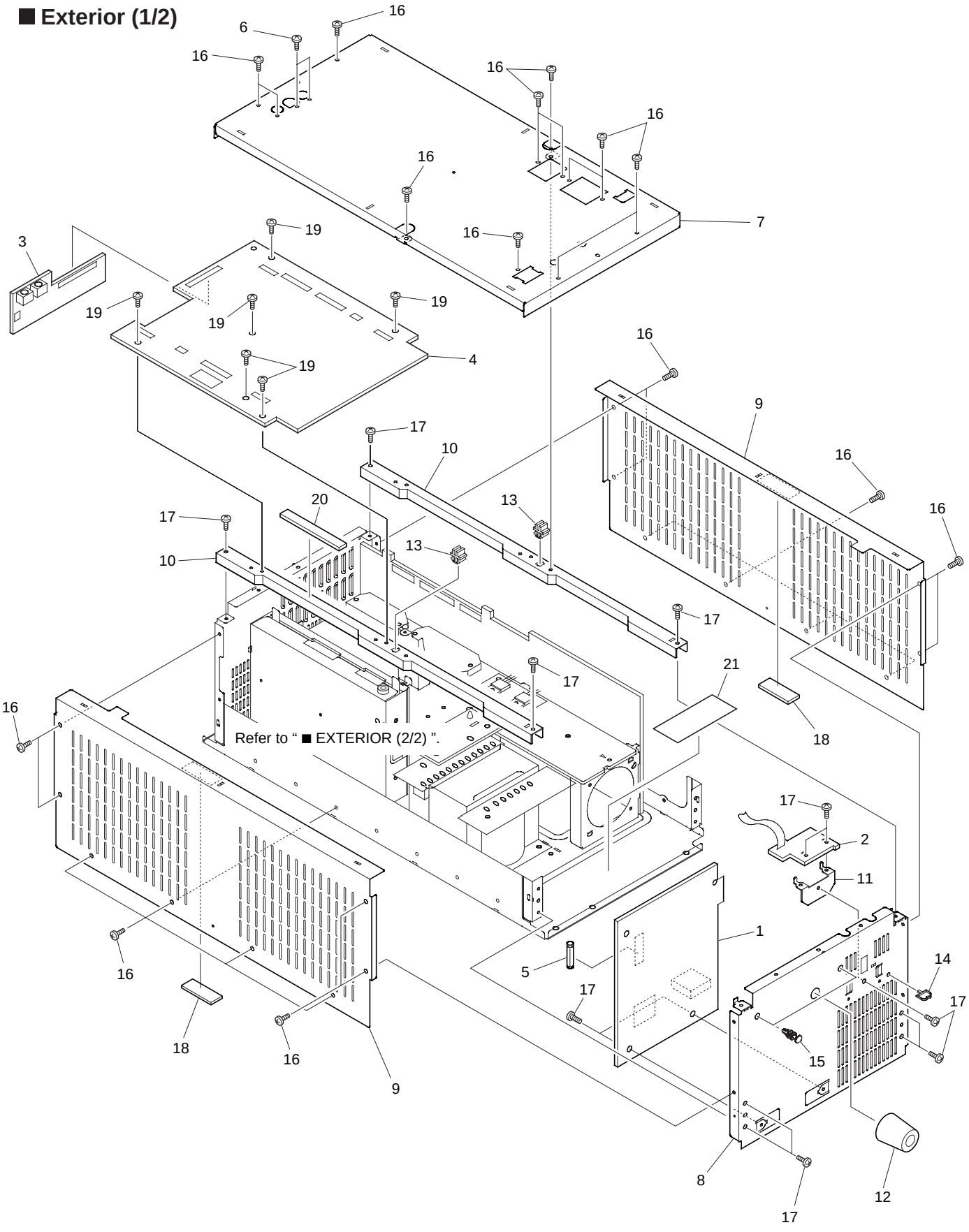


## ■ EXTERIOR PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| NSP | 1 | Cabinet | SMM1817 |
| | 2 | Grille | SMG1623 |
| NSP | 3 | Amp Assy | A–SW7 |
| | 4 | Top Guard | AAK7646 |
| | 5 | …… | |
| | 6 | Connection Cord | SDF1073 |
| | 7 | Packing | SEC1423 |
| NSP | 8 | Packing | SEC1429 |
| NSP | 9 | Damper | SEC1430 |
| | 10 | Damper | SEC1431 |
| NSP | 11 | Bush | SEP–150 |
| NSP | 12 | Acoustic Absorbent | SMV1942 |
| | 13 | Damper | SER1236 |
| NSP | 14 | Damper Plate | SLX1141 |
| NSP | 15 | Duct | SMR1302 |
| NSP | 16 | Acoustic Absorbent | SMV1936 |
| NSP | 17 | Duct Ring | SNK2348 |
| NSP | 18 | Top Cover | SNK2354 |
| | 19 | Speaker | Q20EU82–53F |
| | 20 | Screw (for Top Guard) | BBZ30P080FZK |
| | 21 | Screw (for HP Assy) | BPZ30P080FMC |
| | 22 | Screw (for Speaker, Duct and Amp Assy) | BYC40P200FZB |
| | 23 | Screw (For Top Cover) | SBA1095 |
| | 24 | Duct Assy | SXB1370 |
| | 25 | Top Cover Assy | SXB1368 |

## 2.2.3 AMP ASSY (A-SW7)

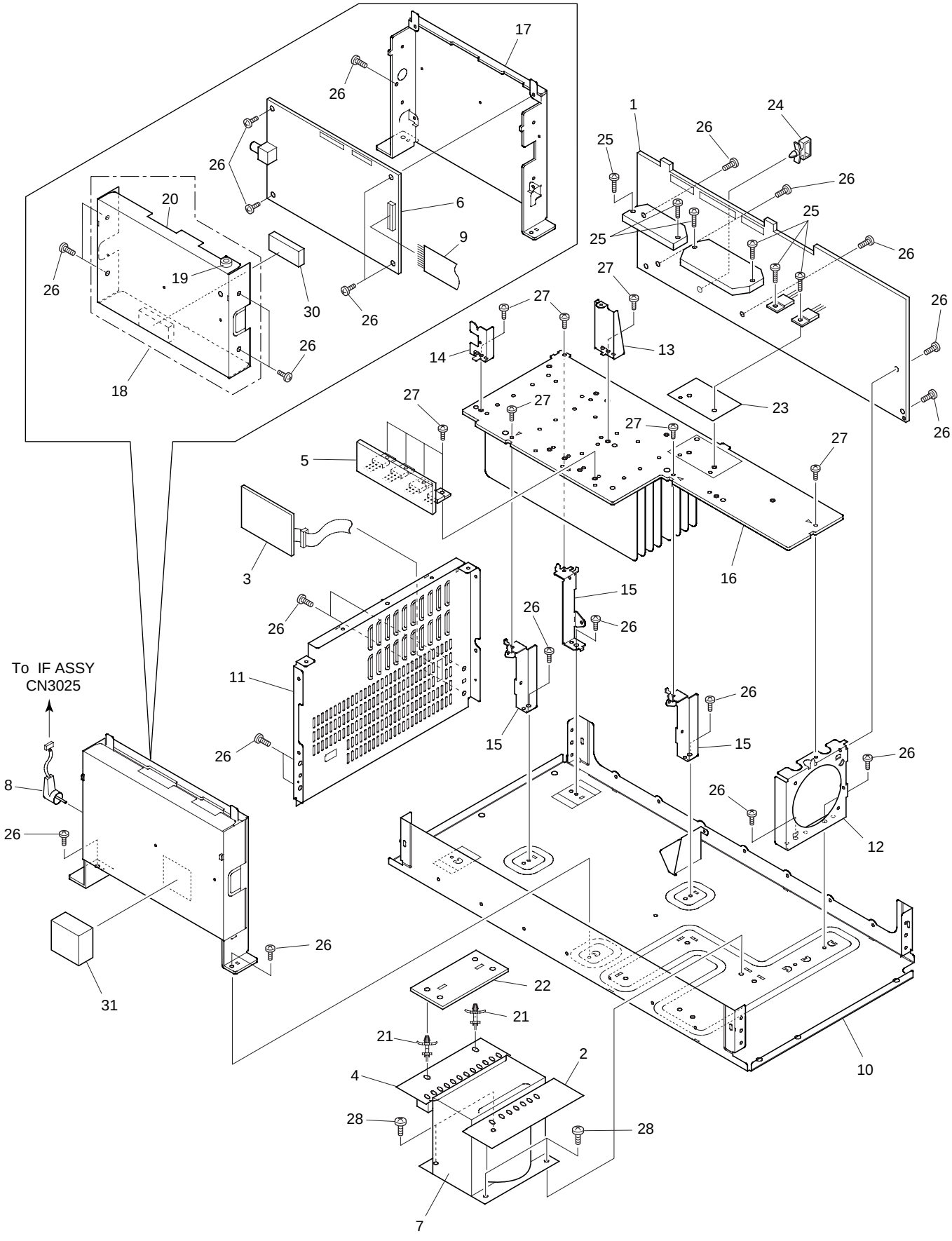
### ■ Exterior (1/2)



## ■ EXTERIOR (1/2) PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | POWER SUPPLY ASSY | AWU7289 |
| | 2 | SWF ASSY | AWU7292 |
| | 3 | IF ASSY | AWU7293 |
| | 4 | MAIN ASSY | AWU7362 |
| ⚠ | 5 | Fuse (4A, FU8001) | REK1082 |
| | 6 | Screw (3 × 8) | ABA7050 |
| | 7 | Rear Panel | ANC7809 |
| | 8 | Bottom Panel | ANC7706 |
| | 9 | Side Panel | ANC7707 |
| | 10 | Bridge | ANG7200 |
| | 11 | PCB Holder | ANG7203 |
| | 12 | Leg Assy | AEC7165 |
| | 13 | PCB Fixing Jig | DEC1231 |
| NSP | 14 | Cord Clamper S | DEC1574 |
| NSP | 15 | PCB Holder | PNW2029 |
| | 16 | Screw | BBT30P080FZK |
| | 17 | Screw | BBZ30P080FMC |
| | 18 | Cushion C | AEB7138 |
| | 19 | Screw | IBZ30P100FCC |
| | 20 | Cushion D | AEB7148 |
| | 21 | 65 Label | ARW7050 |

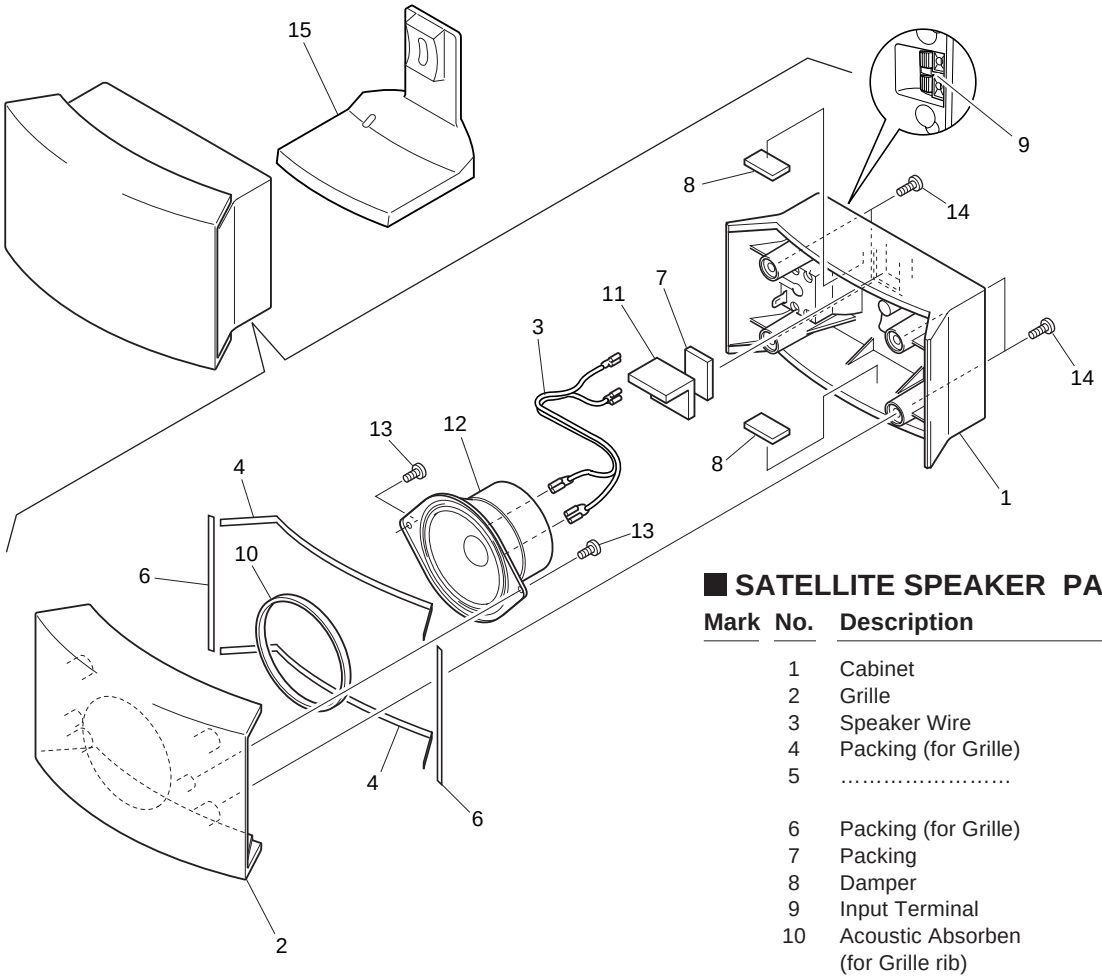
## ■ Exterior (2/2)



## ■ EXTERIOR (2/2) PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | AMP ASSY | AWU7290 |
| | 2 | PRIMARY ASSY | AWU7291 |
| | 3 | HP ASSY | AWU7295 |
| | 4 | SECONDARY ASSY | AWU7175 |
| | 5 | REG (1) ASSY | AWU7176 |
| | 6 | DOLBY DIG 9624 ASSY | AWX7271 |
| ⚠ | 7 | Power Transformer (T8001) | ATS7222 |
| | 8 | Cord with Plug | ADE7030 |
| | 9 | Jumper Wire | D15A10–150–2651 |
| NSP | 10 | Chassis | ANA7074 |
| | 11 | Top Panel | ANC7808 |
| | 12 | Fan Holder | ANG7199 |
| | 13 | PCB Holder | ANG7201 |
| | 14 | IF Holder | ANG7204 |
| | 15 | HS Holder | ANG7207 |
| NSP | 16 | Heat Sink | ANH7091 |
| | 17 | Shield Case (A) | ANK7044 |
| NSP | 18 | Shield Case (B) Assy | AXA7074 |
| NSP | 19 | Earth Sleeve | ALA7010 |
| NSP | 20 | Shield Case (B) | ANK7045 |
| NSP | 21 | PCB Support | AEC1006 |
| | 22 | Insulation Sheet | AEC7148 |
| | 23 | Mica Sheet | AEE7028 |
| NSP | 24 | Locking Wire Saddle | DEC1305 |
| | 25 | Screw (3 × 16) | ABA1056 |
| | 26 | Screw | BBZ30P080FMC |
| | 27 | Screw | BBZ30P100FCC |
| | 28 | Screw | BCZ40P060FMC |
| | 30 | Cushion A | AEB7136 |
| | 31 | Cushion B | AEB7137 |

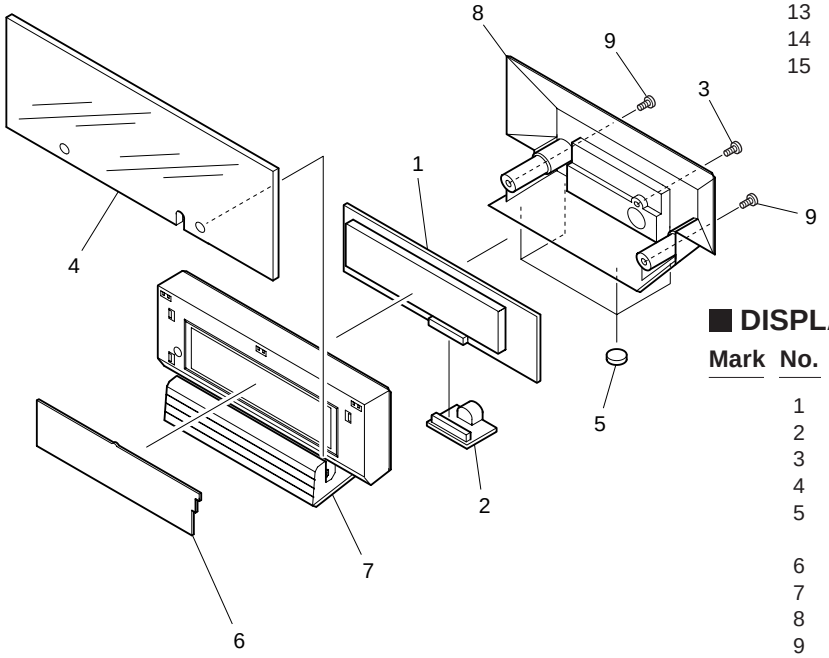
## 2.2.4 SATELLITE SPEAKER (HTZ-ST7)




### ■ SATELLITE SPEAKER PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | Cabinet | SNK2305 |
| | 2 | Grille | SMG1618 |
| | 3 | Speaker Wire | SDD1269 |
| | 4 | Packing (for Grille) | SEC1398 |
| | 5 | …… | |
| | 6 | Packing (for Grille) | SEC1401 |
| | 7 | Packing | SEE1066 |
| | 8 | Damper | SES1021 |
| | 9 | Input Terminal | SKX1056 |
| | 10 | Acoustic Absorben (for Grille rib) | SMV1919 |
| NSP | 11 | Acoustic Absorbent | SMV1940 |
| | 12 | Speaker | B70AC45–57F |
| | 13 | Screw | BPZ40P060FMC |
| | 14 | Screw | BPZ40P120FMC |
| | 15 | Mini Stand | SNK2312 |

## 2.2.5 DISPLAY UNIT (DU-HT7)




### ■ DISPLAY UNIT PARTS LIST

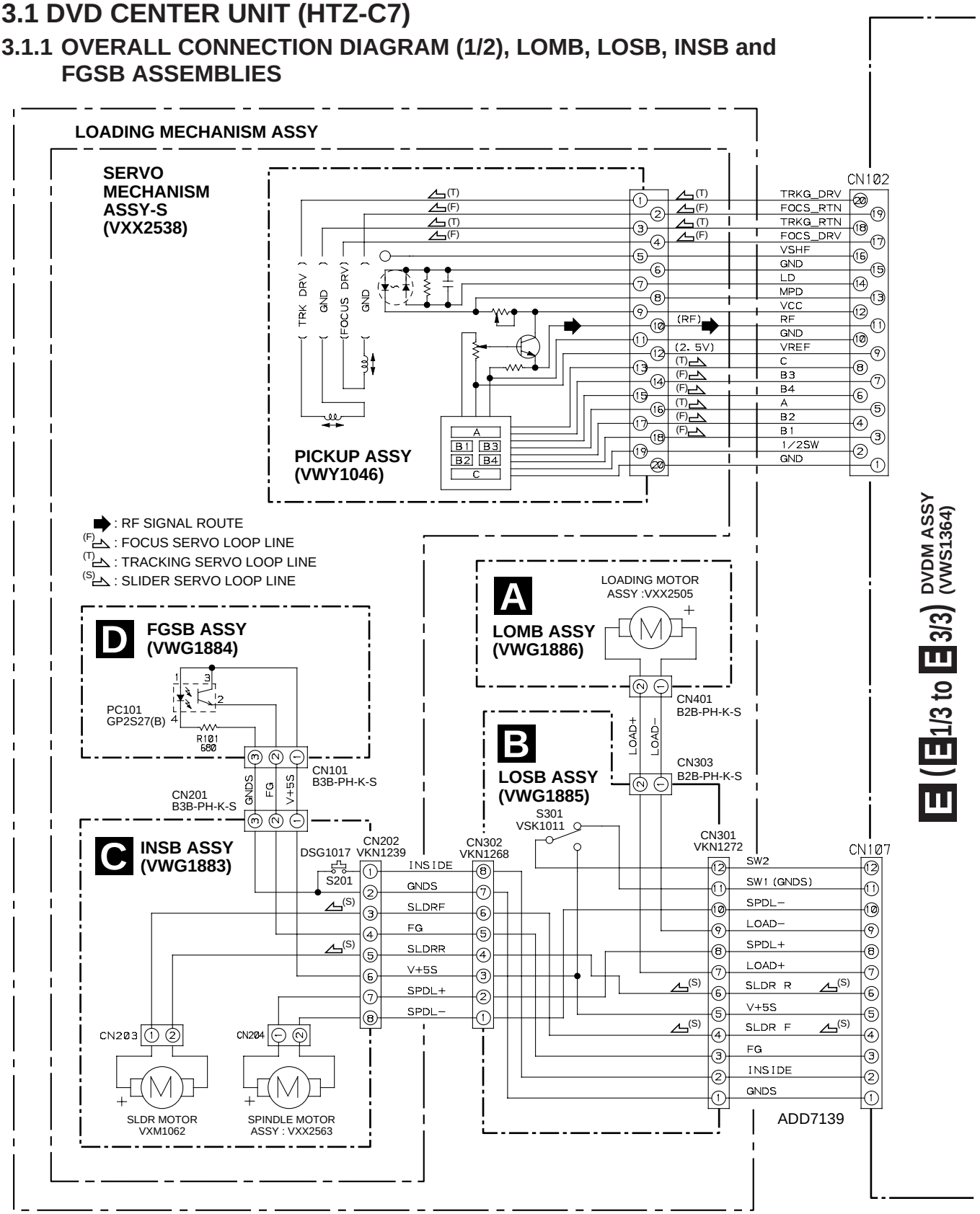
| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | FLDP ASSY | AWU7294 |
| | 2 | CNB ASSY | AWU7172 |
| | 3 | Screw (3 × 8) | ABA7050 |
| | 4 | Window | AAK7582 |
| | 5 | Leg | AEB7090 |
| | 6 | FL Filter | AEC7150 |
| | 7 | Display Panel | AMB7531 |
| | 8 | Rear Cover | AMC7030 |
| | 9 | Screw | BPZ30P080FMC |

# 3. SCHEMATIC DIAGRAM

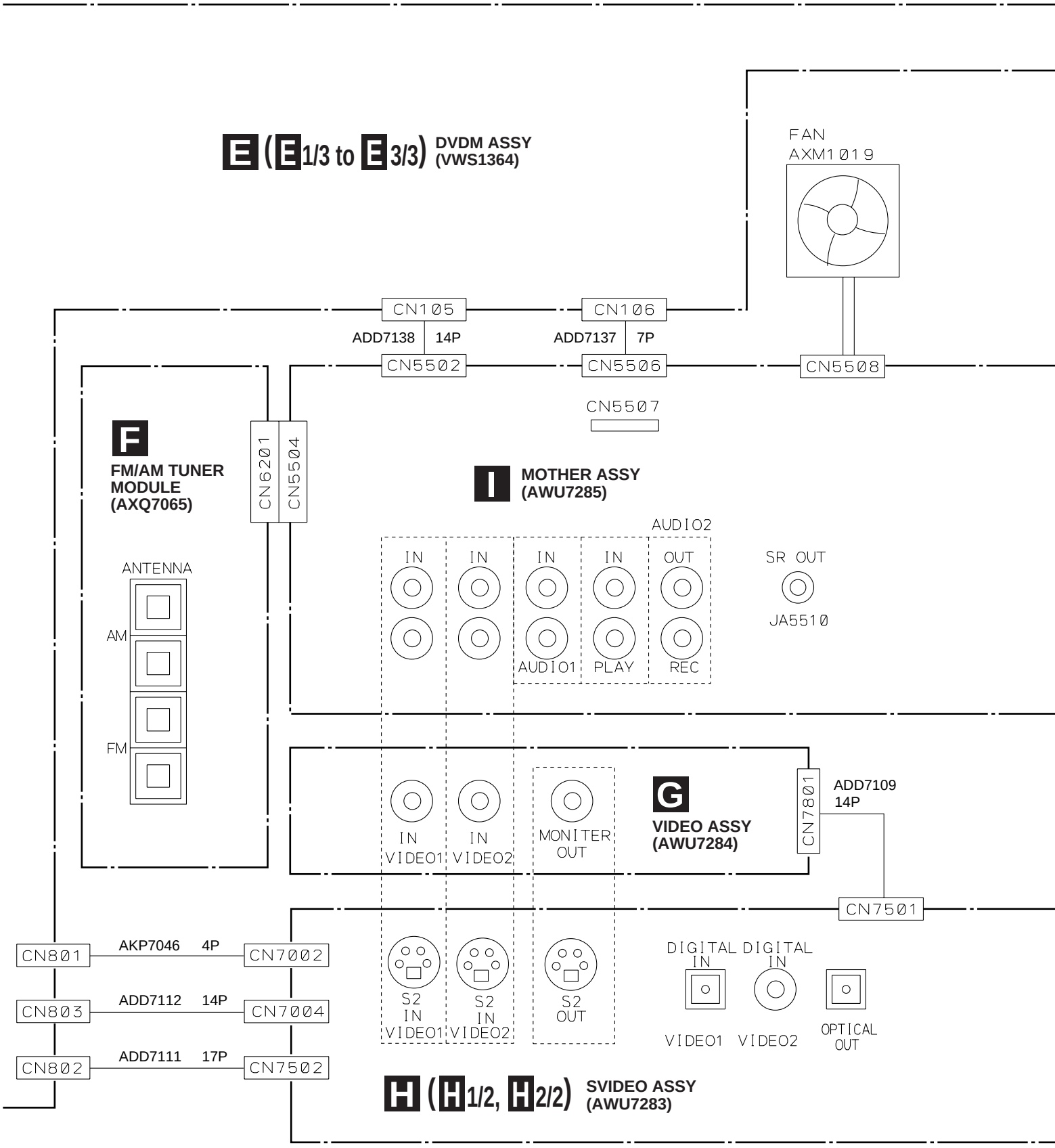
Note: When ordering service parts, be sure to refer to "EXPLODED VIEWS AND PARTS LIST" or "PCB PARTS LIST".

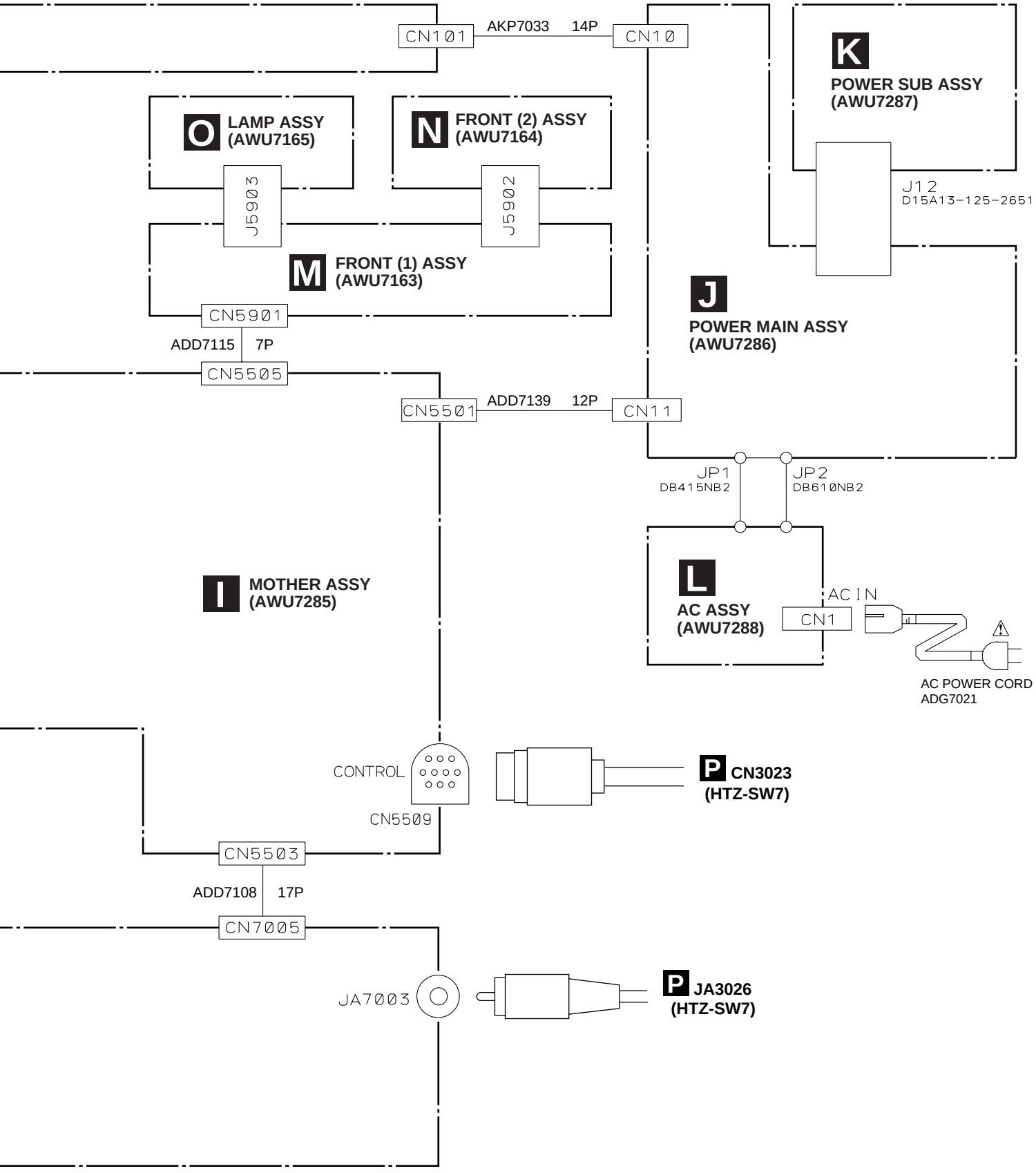
## 3.1 DVD CENTER UNIT (HTZ-C7)

### 3.1.1 OVERALL CONNECTION DIAGRAM (1/2), LOMB, LOSB, INSB and FGSB ASSEMBLIES

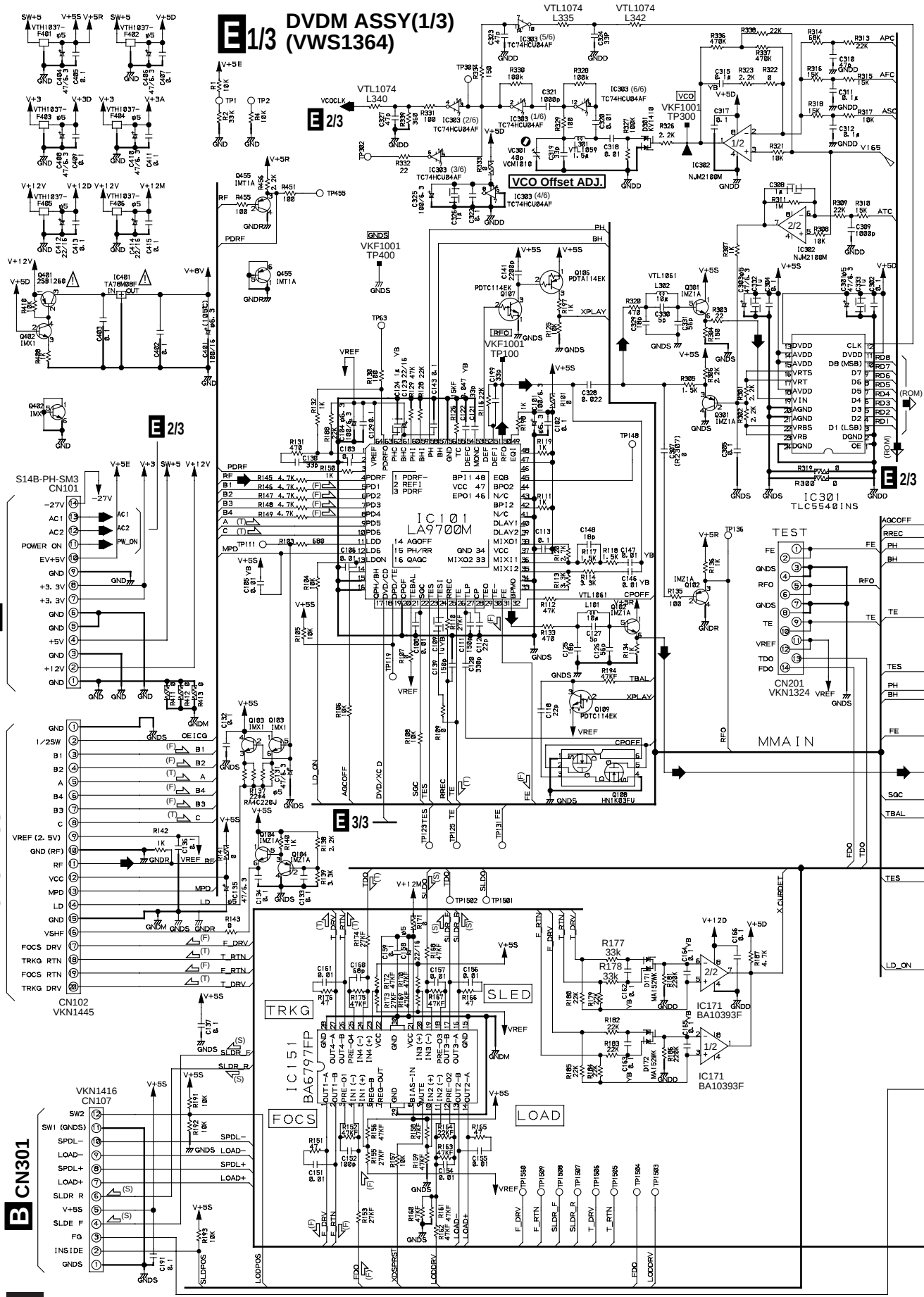


## 3.1.2 OVERALL CONNECTION DIAGRAM (2/2)

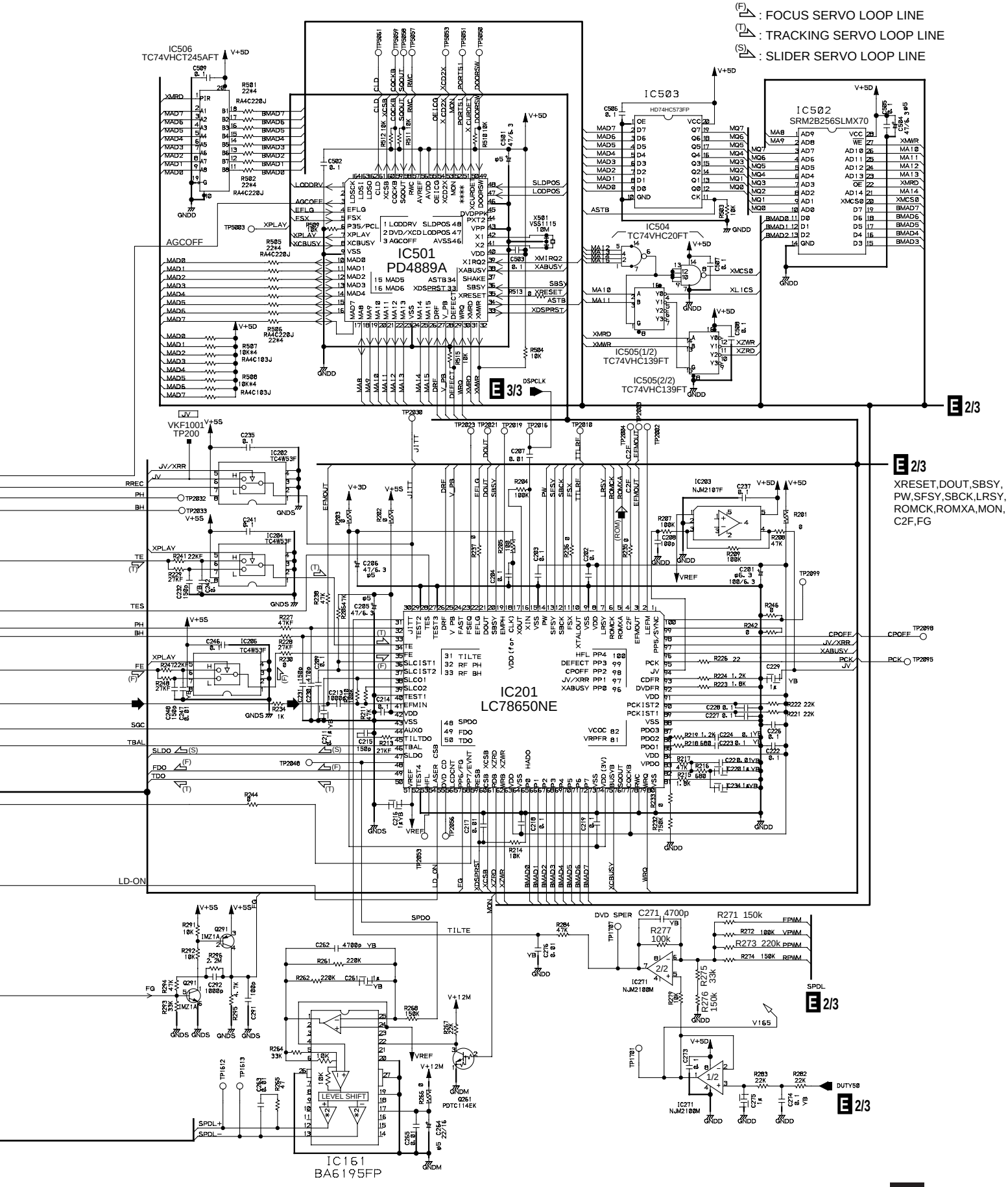



CN101
AKP7033 14P
CN10
K
POWER SUB ASSY
(AWU7287)
O
LAMP ASSY
(AWU7165)
N
FRONT (2) ASSY
(AWU7164)
J5903
J5902
J12
D15A13-125-2651
M
FRONT (1) ASSY
(AWU7163)
J
POWER MAIN ASSY
(AWU7286)
CN5901
ADD7115 7P
CN5505
CN5501
ADD7139 12P
CN11
JP1
DB415NB2
JP2
DB610NB2
I
MOTHER ASSY
(AWU7285)
L
AC ASSY
(AWU7288)
AC IN
CN1
AC POWER CORD
ADG7021
CONTROL
CN5509
P CN3023
(HTZ-SW7)
CN5503
ADD7108 17P
CN7005
JA7003
P JA3026
(HTZ-SW7)

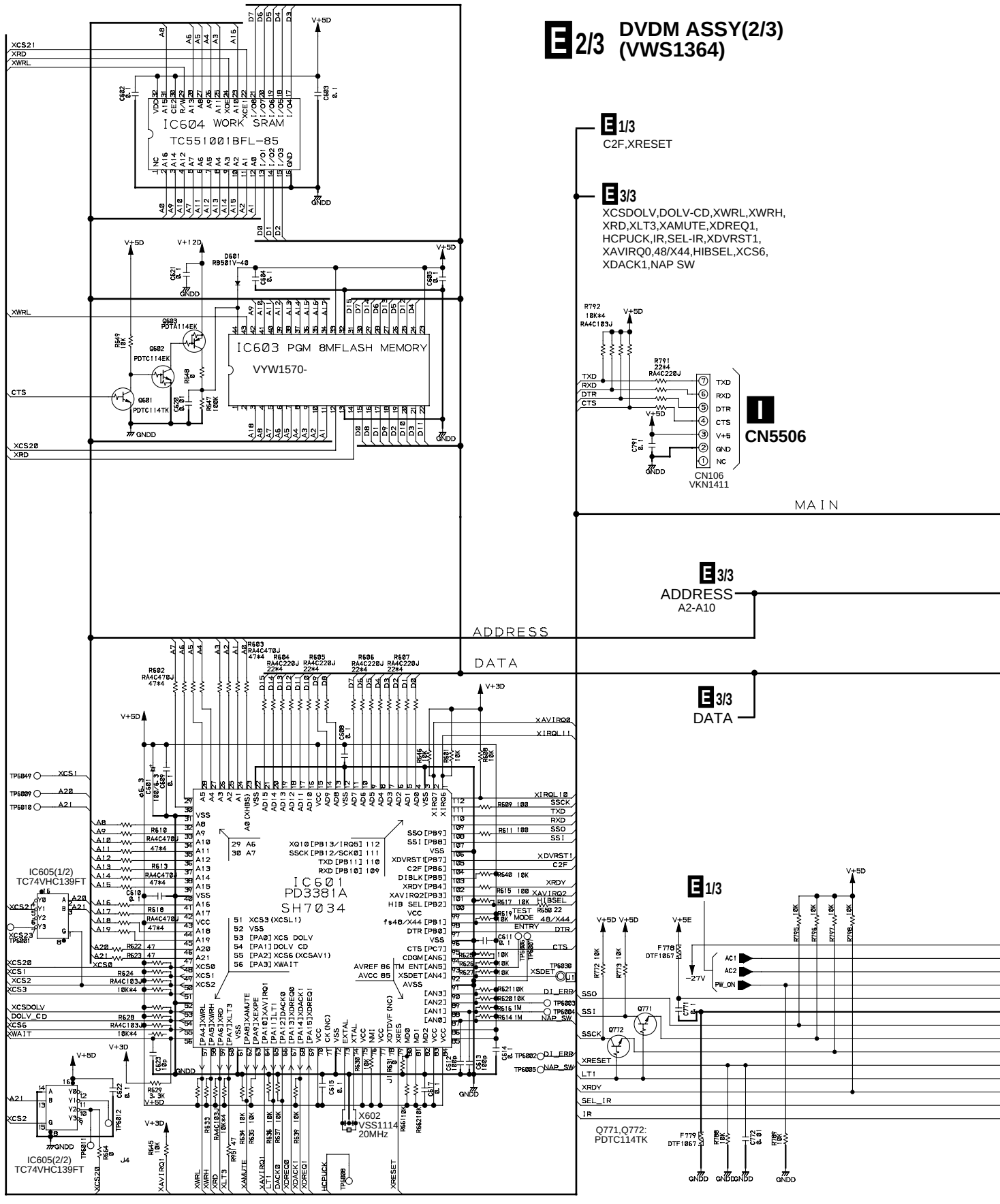
## 3.1.3 DVDM ASSY (1/3)

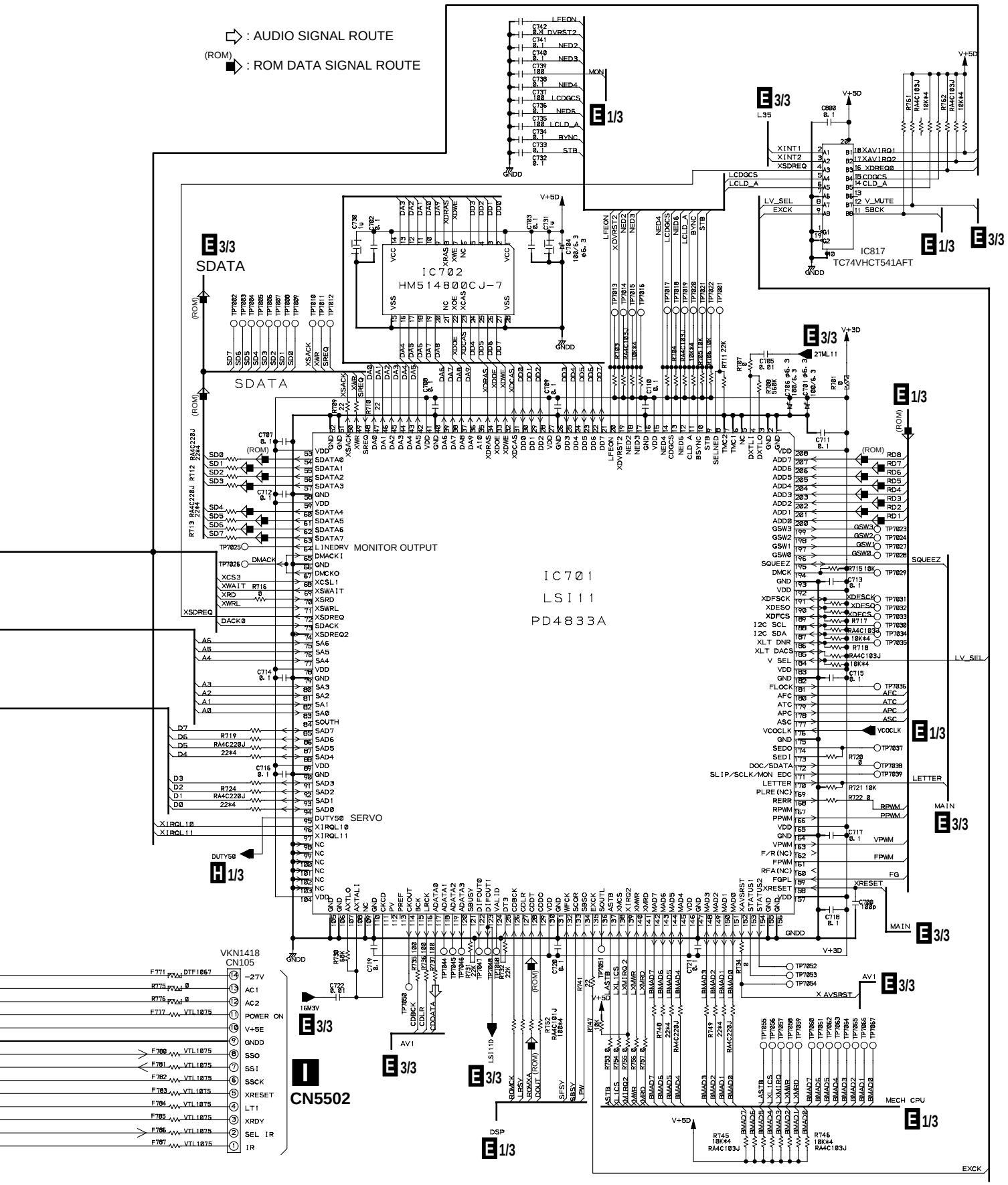


: RF SIGNAL ROUTE
(ROM) : ROM DATA SIGNAL ROUTE
(F) : FOCUS SERVO LOOP LINE
(T) : TRACKING SERVO LOOP LINE
(S) : SLIDER SERVO LOOP LINE

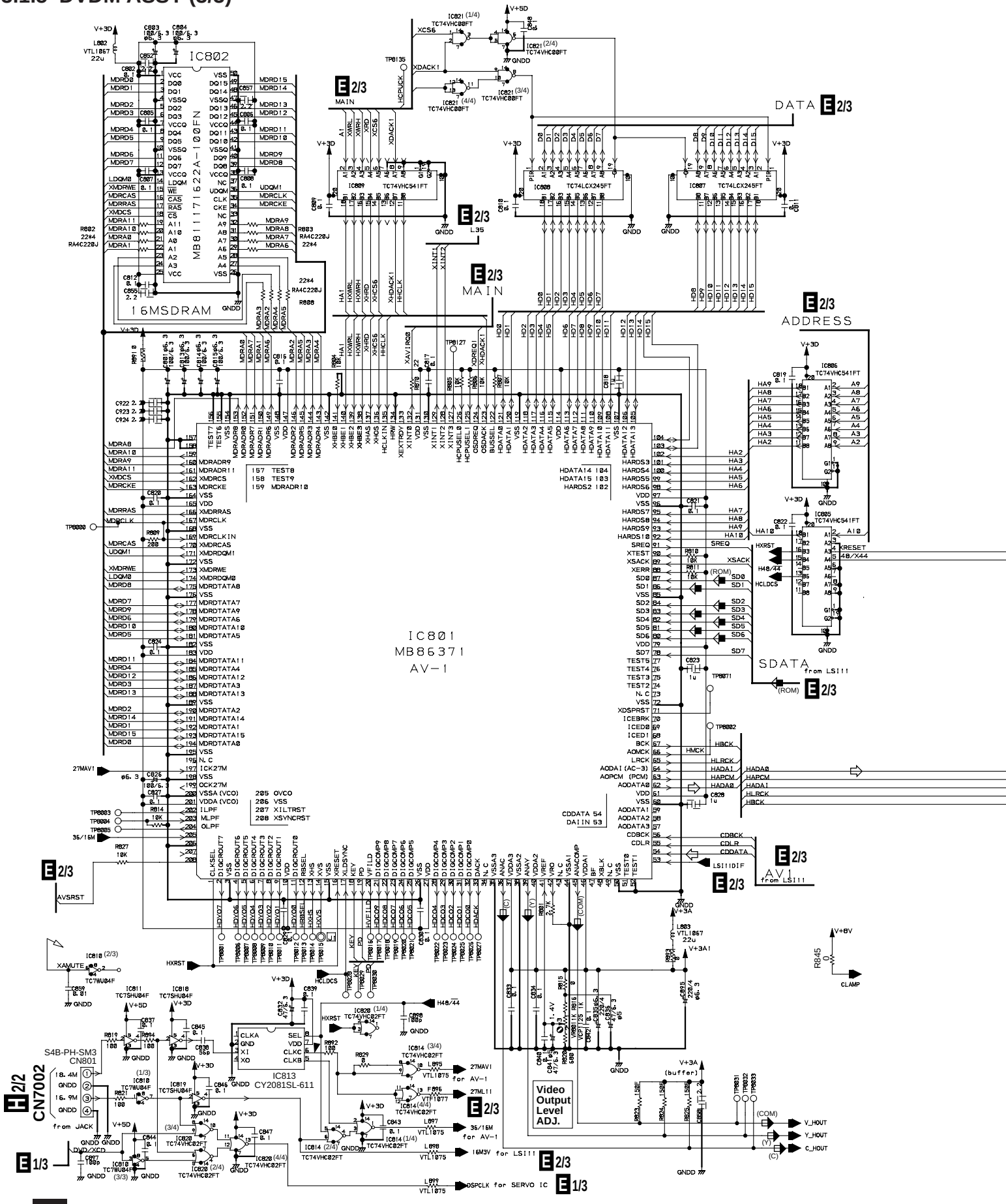


## 3.1.4 DVDM ASSY (2/3)

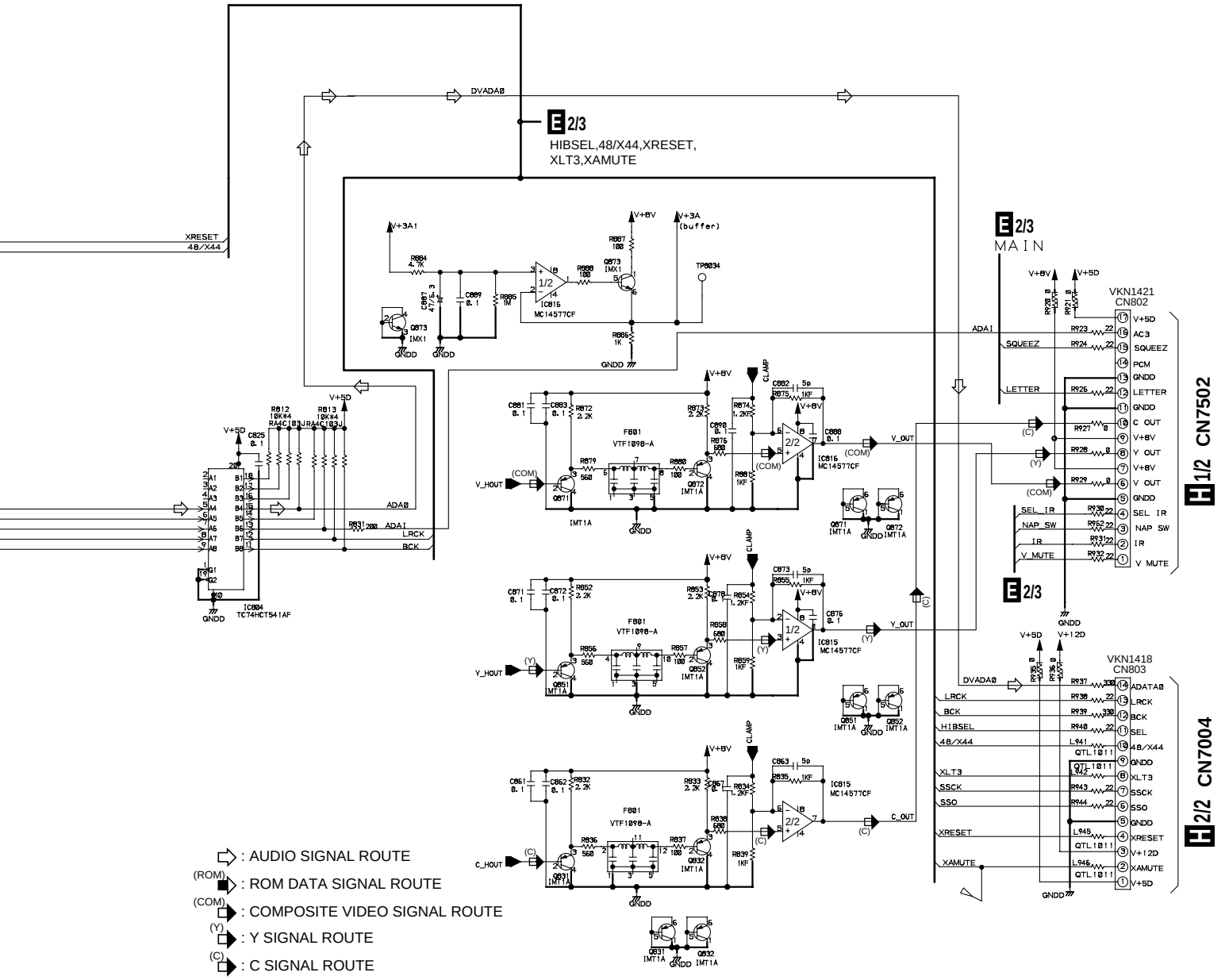



: AUDIO SIGNAL ROUTE
(ROM) : ROM DATA SIGNAL ROUTE
IC702
HM514800CJ-7
IC701
LSI11
PD4833A
IC817
TC74VHCT541AFT
SDATA
MONITOR OUTPUT
SERVO
MECH CPU
DSP
VKN1418
CN105
CN5502
E 1/3
E 2/3
E 3/3
H 1/3
I

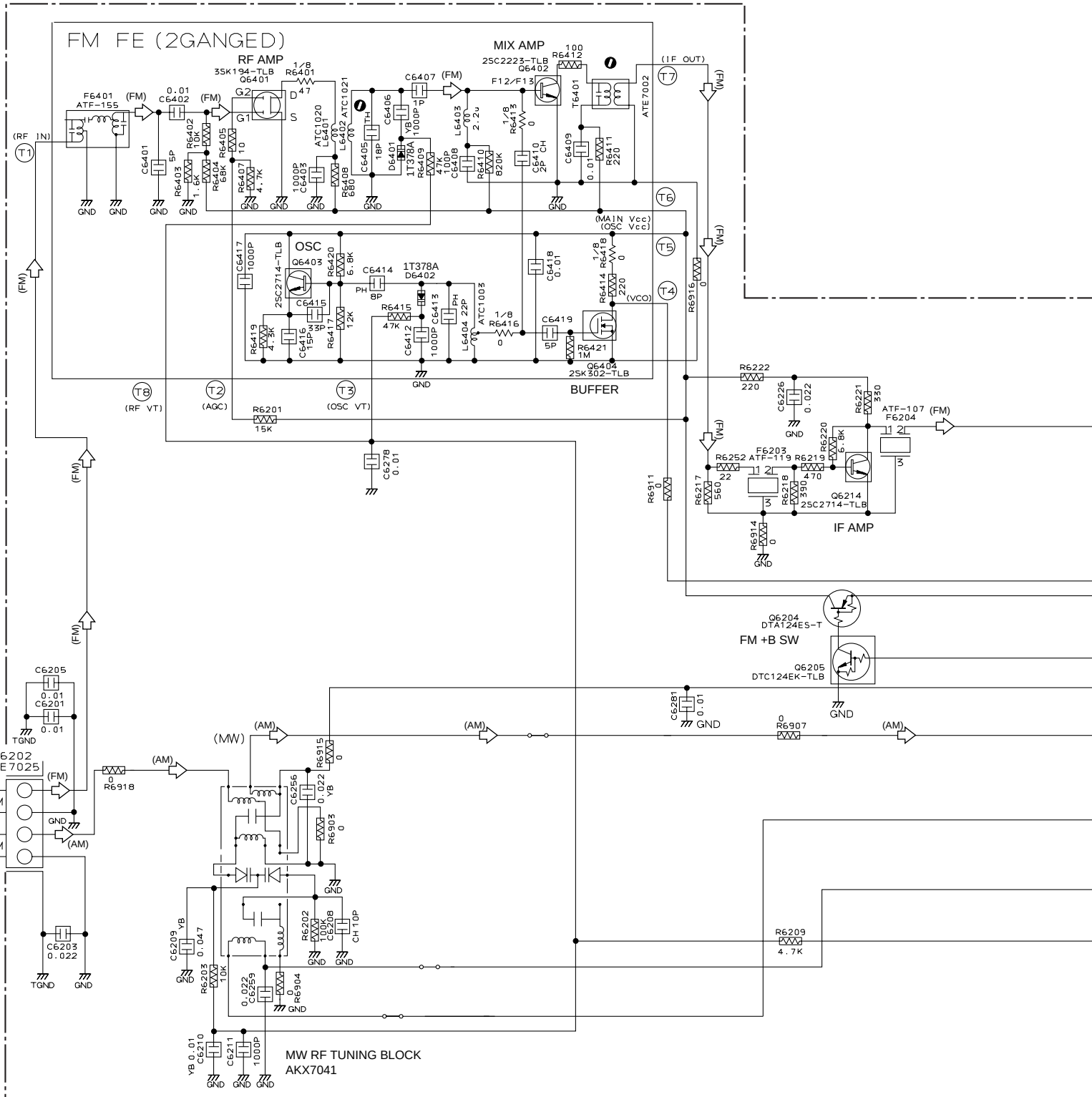
## 3.1.5 DVDM ASSY (3/3)



# E 3/3 DVDM ASSY(3/3) (VWS1364)



## 3.1.6 FM/AM TUNER MODULE

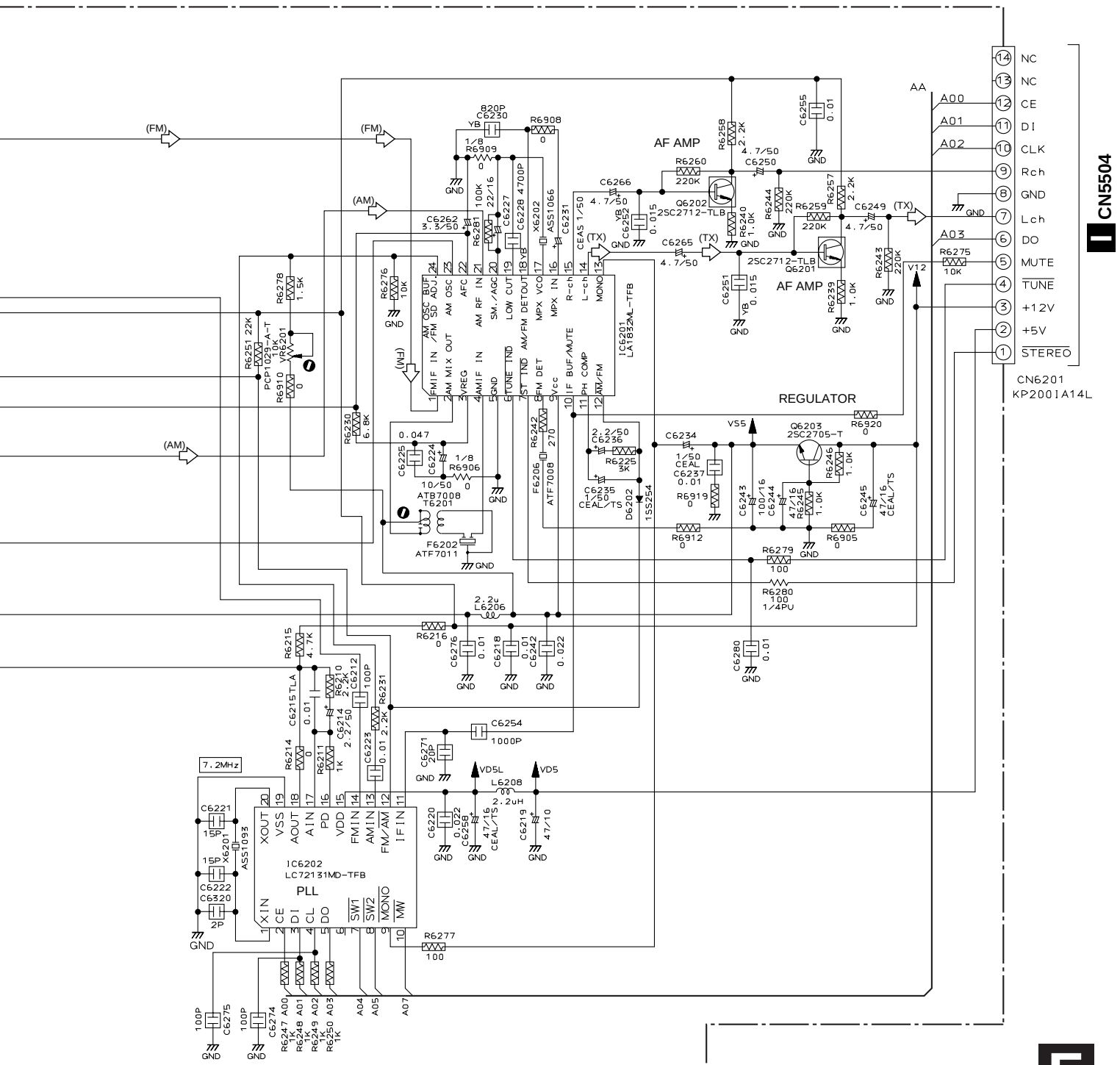



**F FM/AM TUNER MODULE (AXQ7065)**

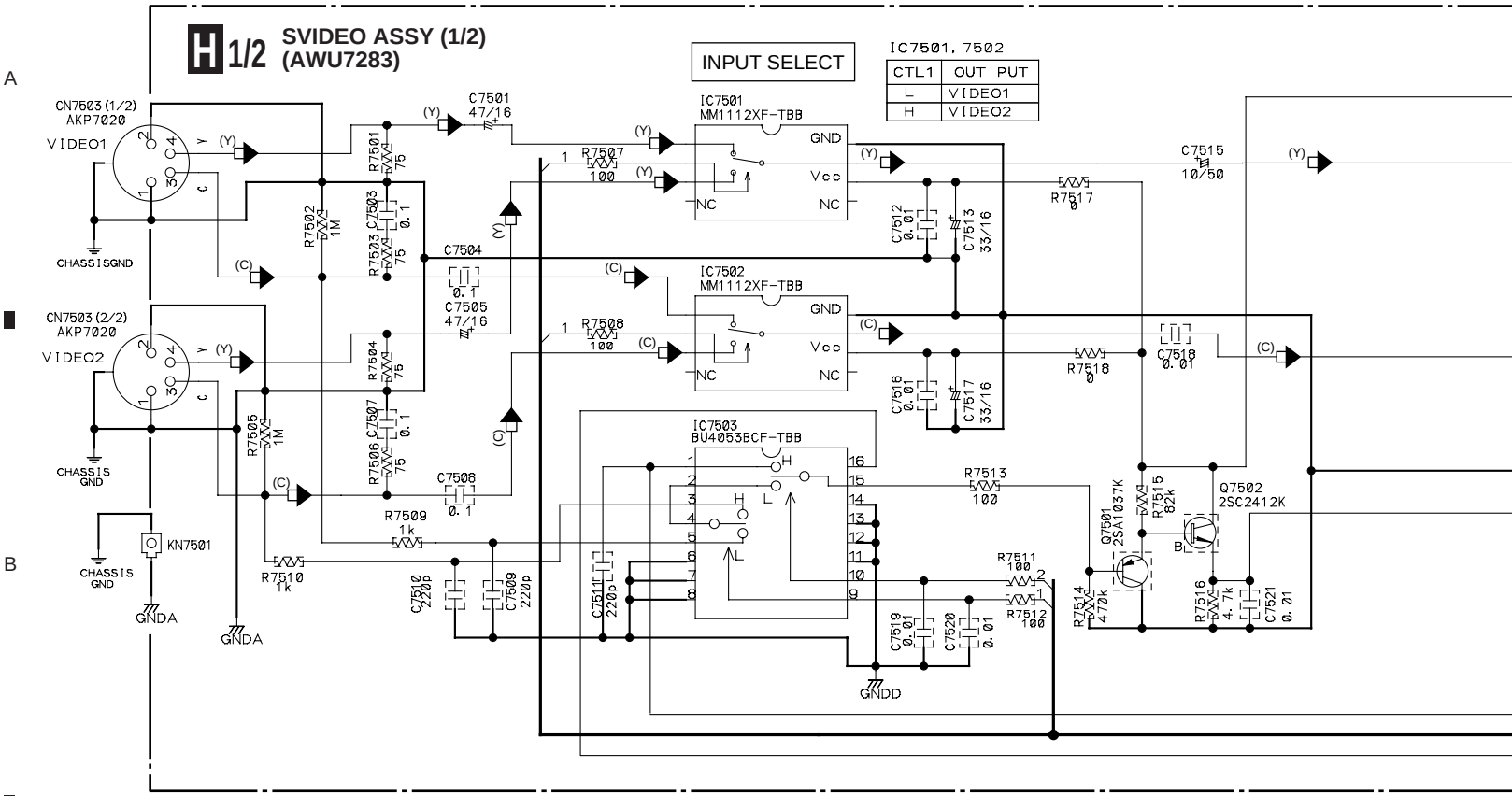
## Notes

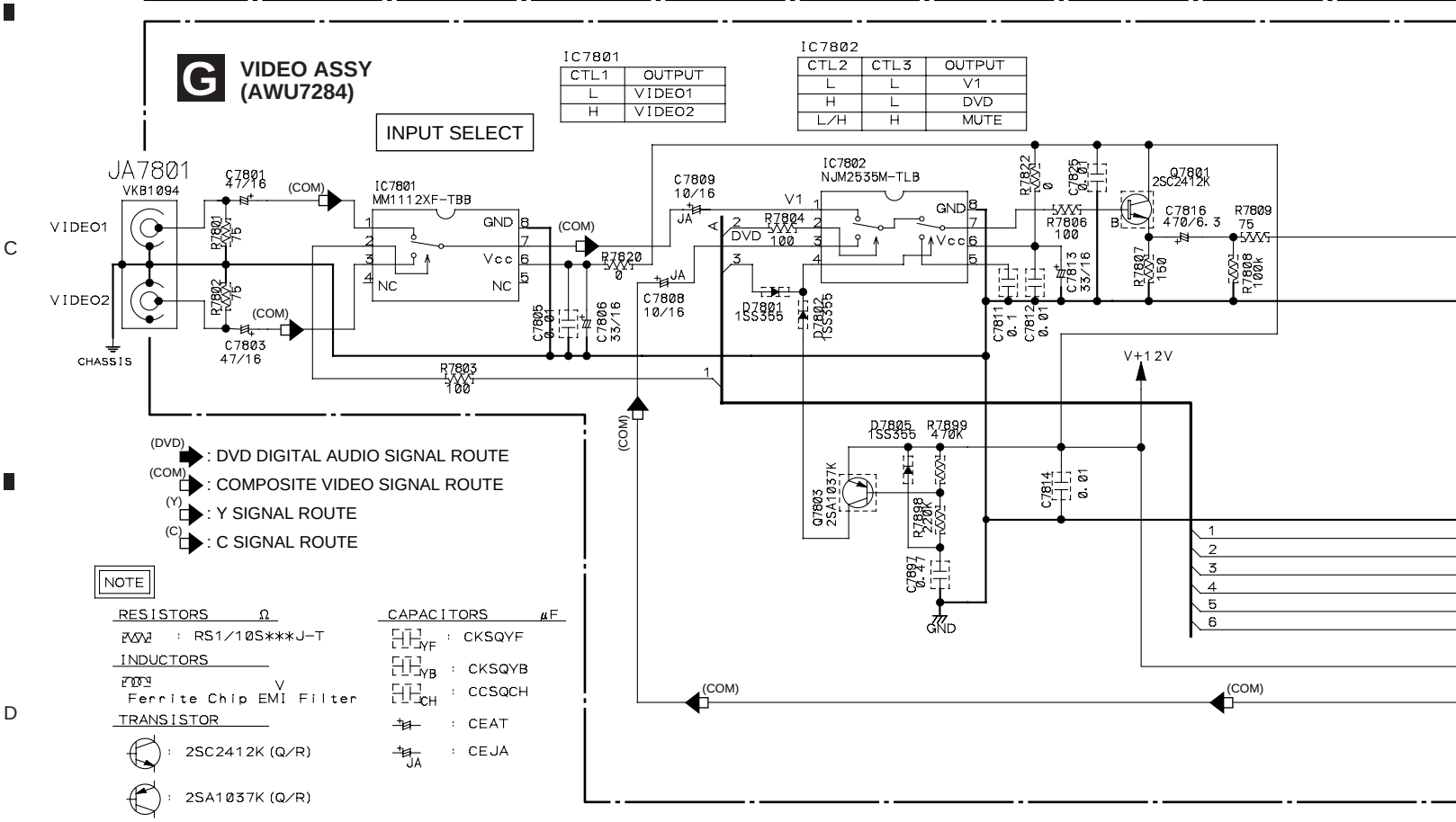
1. RESISTORS
   Indicated in Ω, 1/10W±5% Tolerance unless otherwise noted K:KΩ, M:MΩ.
2. CAPACITORS
   Indicated in Capacity(μF)/VOLTAGE(V) unless otherwise noted P:PF.
3. DIODES
   No mark diode is 1SS254.

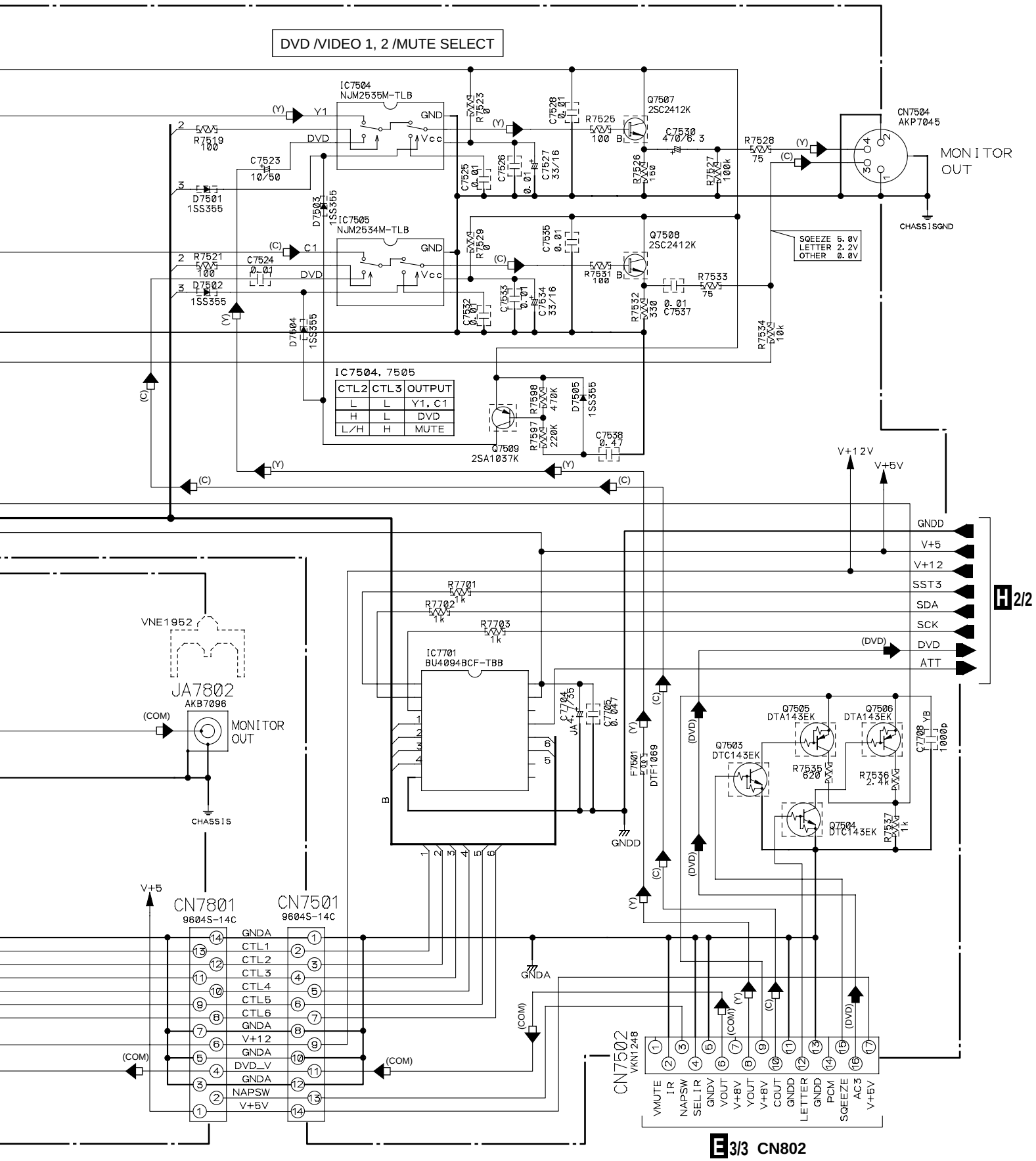
(TX) : TUNER AUDIO SIGNAL ROUTE
(FM) : FM SIGNAL ROUTE
(AM) : AM SIGNAL ROUTE



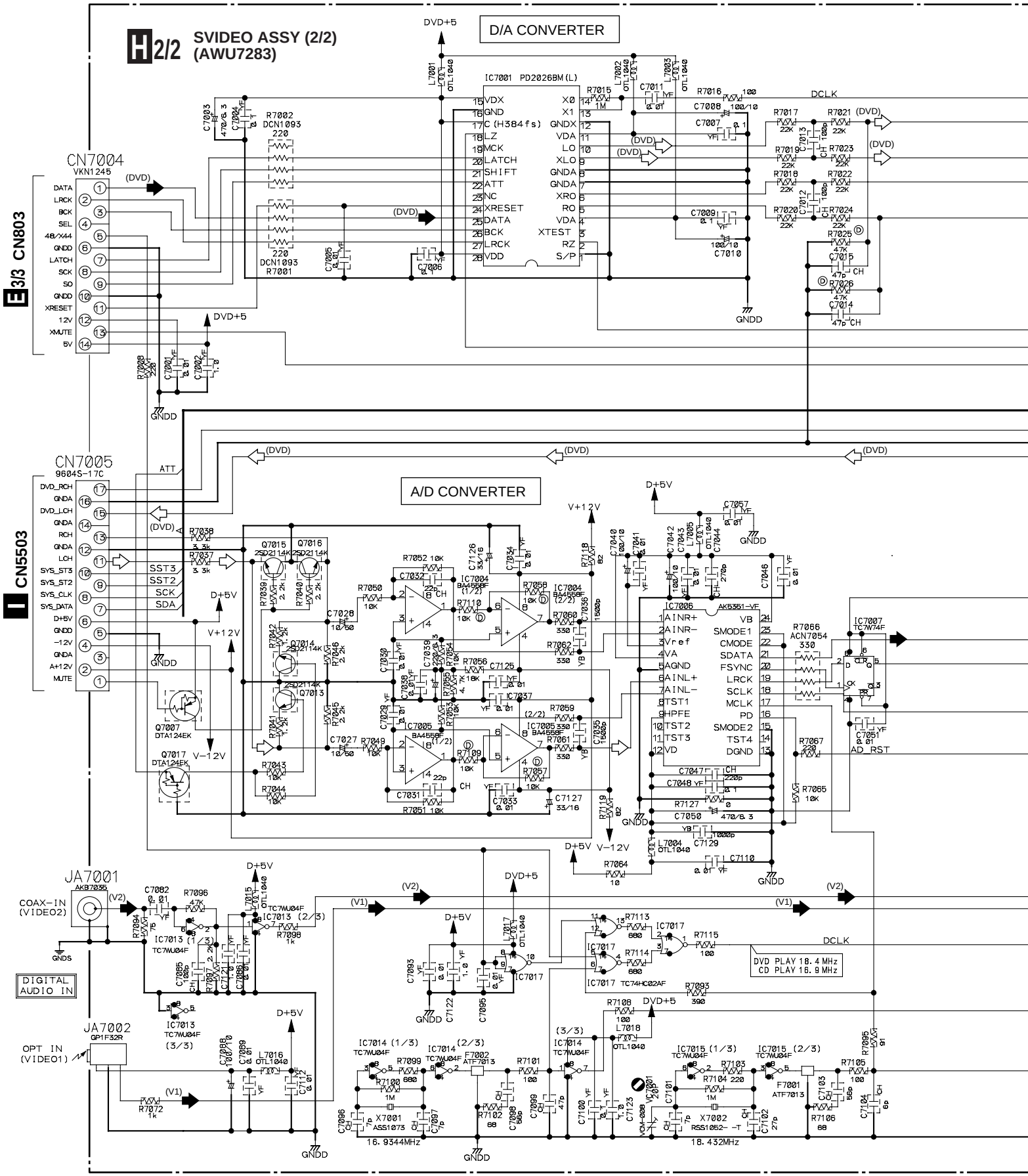
## 3.1.7 VIDEO ASSY and SVIDEO ASSY (1/2)

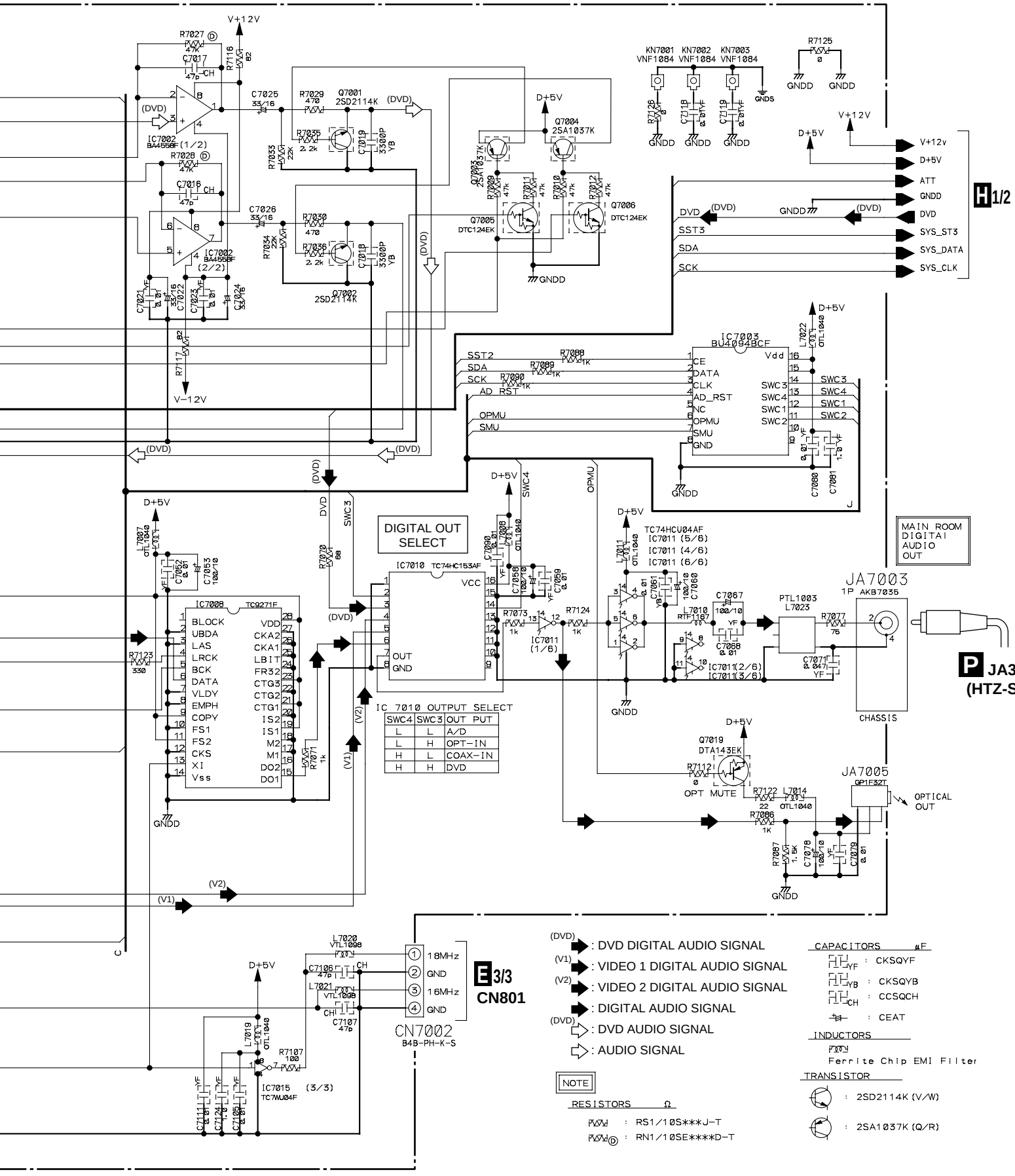


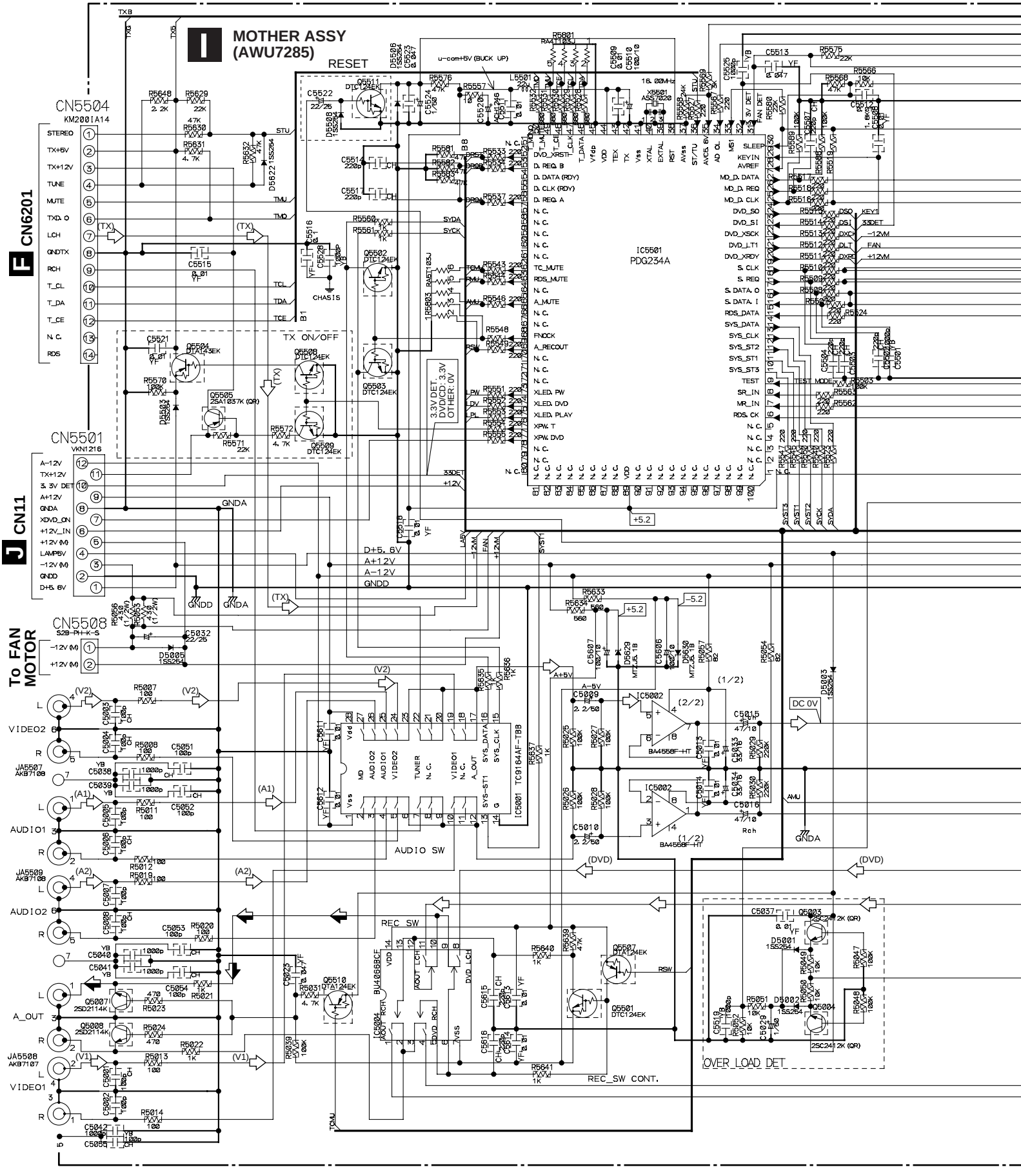

DVD /VIDEO 1, 2 /MUTE SELECT
IC7504
NJM2535M-TLB
IC7505
NJM2534M-TLB
Y1
C1
DVD
GND
Vcc
R7519 100
R7521 100
C7523 10/50
C7524 0.01
D7501 1SS355
D7502 1SS355
D7503 1SS355
D7504 1SS355
R7523 0
R7529 0
C7525 0.01
C7526 0.01
C7527 33/16
C7532 0.01
C7533 0.01
C7534 33/16
Q7507 2SC2412K
Q7508 2SC2412K
R7525 100
R7531 100
C7530 470/6.3
C7535 0.01
R7526 150
R7532 330
R7527 100k
R7533 75
C7537 0.01
R7528 75
R7534 10k
CN7504 AKP7045
MONITOR OUT
CHASSISGND
SQEEZE 5.0V
LETTER 2.2V
OTHER 0.0V
IC7504, 7505
CTL2 CTL3 OUTPUT
L L Y1, C1
H L DVD
L/H H MUTE
Q7509 2SA1037K
R7598 470K
R7597 220K
D7505 1SS355
C7538 0.47
V+12V
V+5V
GNDD
V+5
V+12
SST3
SDA
SCK
DVD
ATT
H 2/2
VNE1952
JA7802 AKB7096
(COM)
MONITOR OUT
CHASSIS
R7701 1k
R7702 1k
R7703 1k
IC7701 BU4094BCF-TBB
C7704 35
C7705 0.047
JA7701
F7501 F701 DTF1069
Q7503 DTC143EK
Q7505 DTA143EK
Q7506 DTA143EK
Q7504 DTC143EK
R7535 620
R7536 2.4k
R7537 1k
C7708 1000p
CN7801 9604S-14C
CN7501 9604S-14C
GNDA
CTL1
CTL2
CTL3
CTL4
CTL5
CTL6
GNDA
V+12
GNDA
DVD_V
GNDA
NAPSW
V+5V
CN7502 VKN1248
VMUTE
IR
NAPSW
SELIR
GNDV
VOUT
V+8V
VOUT
V+8V
COUT
GNDD
LETTER
GNDD
PCM
SQEEZE
AC3
V+5V
E 3/3 CN802

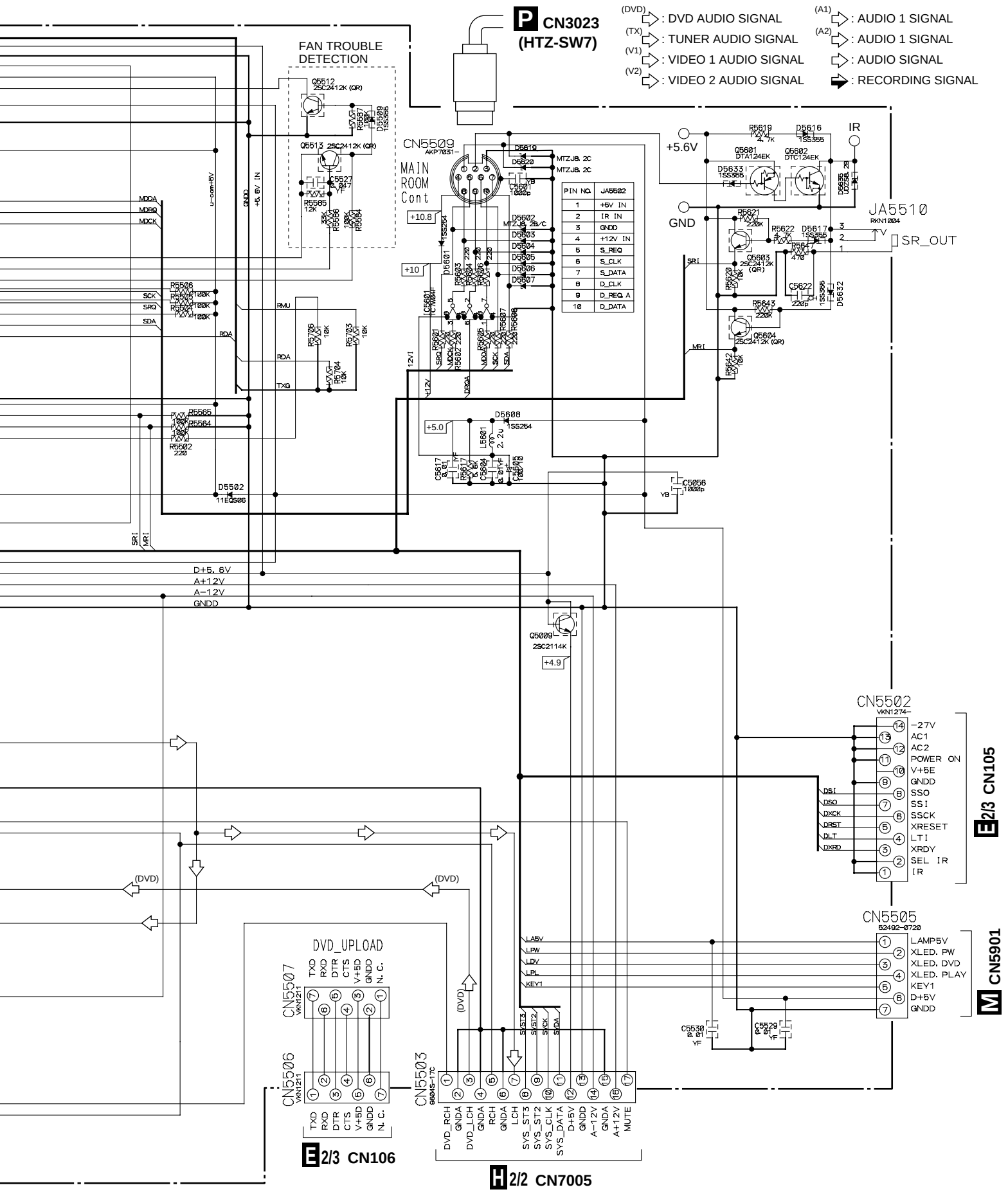
## 3.1.8 SVIDEO ASSY (2/2)



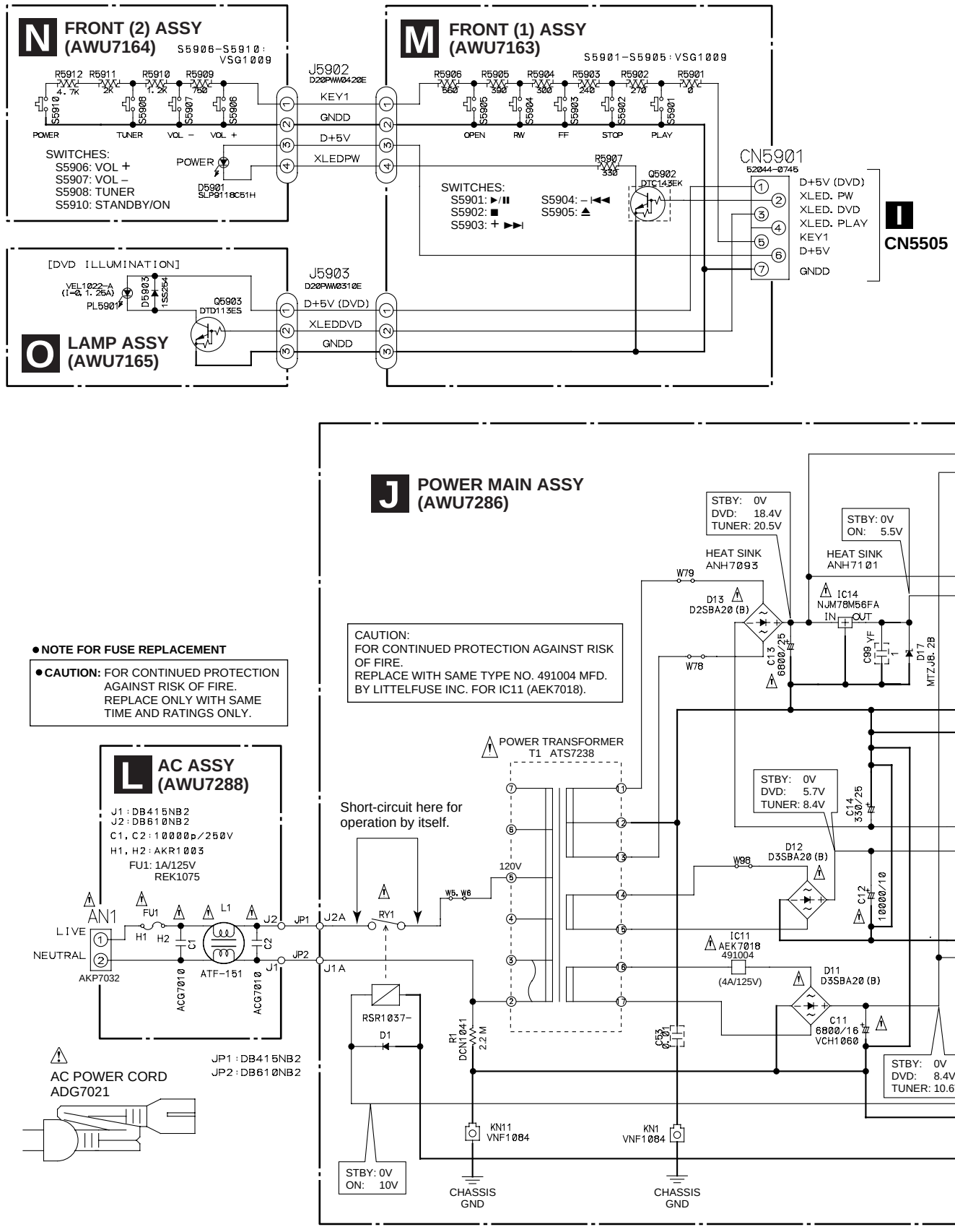

V+12V
V-12V
D+5V
GNDD
(DVD)
IC7002 BA4558F (1/2)
IC7002 BA4558F (2/2)
Q7001 2SD2114K
Q7002 2SD2114K
Q7004 2SA1037K
Q7005 DTC124EK
Q7006 DTC124EK
KN7001 VNF1084
KN7002 VNF1084
KN7003 VNF1084
H 1/2
V+12v
D+5V
ATT
GNDD
DVD
SYS_ST3
SYS_DATA
SYS_CLK
SST3
SDA
SCK
IC7003 BU4094BCF
SST2
AD_RST
OPMU
SMU
SWC1
SWC2
SWC3
SWC4
DIGITAL OUT SELECT
IC7010 TC74HC153AF
IC7008 TC9271F
BLOCK
UBDA
LAS
LRCK
BCK
DATA
VLDY
EMPH
COPY
FS1
FS2
CKS
XI
Vss
IC7011 TC74HCU04AF
IC7011 (5/6)
IC7011 (4/6)
IC7011 (6/6)
IC7011 (1/6)
IC7011 (2/6)
IC7011 (3/6)
MAIN ROOM DIGITAL AUDIO OUT
JA7003 1P AKB7035
P JA3026 (HTZ-SW7)
CHASSIS
JA7005 GP1F32T
OPTICAL OUT
Q7019 DTA143EK
OPT MUTE
IC 7010 OUTPUT SELECT
SWC4 SWC3 OUT PUT
L L A/D
L H OPT-IN
H L COAX-IN
H H DVD
L7020 VTL1098
L7021 VTL1098
18MHz
GND
16MHz
GND
E 3/3 CN801
CN7002 B4B-PH-K-S
IC7015 (3/3) TC7MU04F
(DVD) : DVD DIGITAL AUDIO SIGNAL
(V1) : VIDEO 1 DIGITAL AUDIO SIGNAL
(V2) : VIDEO 2 DIGITAL AUDIO SIGNAL
: DIGITAL AUDIO SIGNAL
(DVD) : DVD AUDIO SIGNAL
: AUDIO SIGNAL
NOTE
RESISTORS Ω
: RS1/10S***J-T
: RN1/10SE****D-T
CAPACITORS µF
YF : CKSQYF
YB : CKSQYB
CH : CCSQCH
: CEAT
INDUCTORS
Ferrite Chip EMI Filter
TRANSISTOR
: 2SD2114K (V/W)
: 2SA1037K (Q/R)

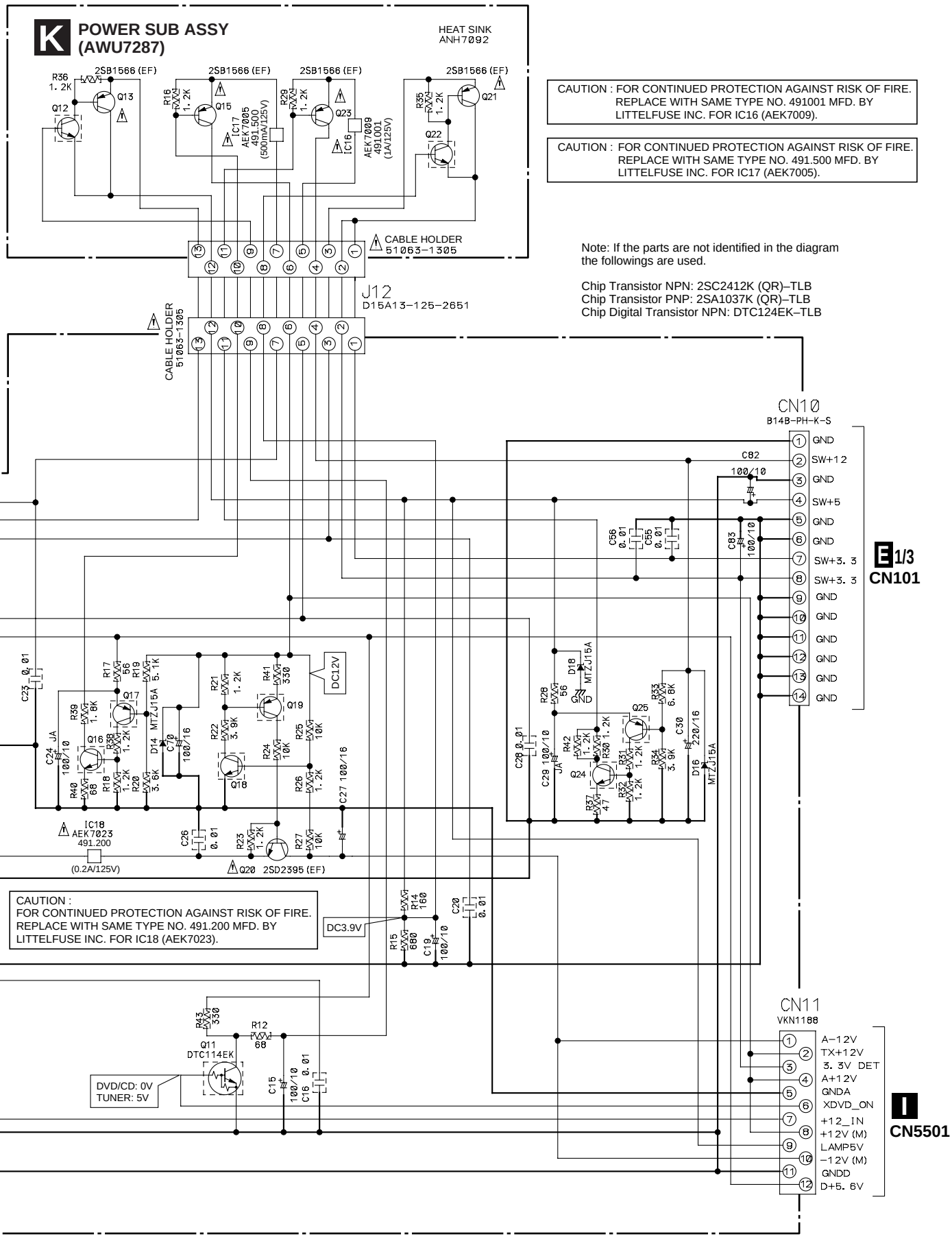
## 3.1.9 MOTHER ASSY




P CN3023 (HTZ-SW7)
(DVD) : DVD AUDIO SIGNAL
(TX) : TUNER AUDIO SIGNAL
(V1) : VIDEO 1 AUDIO SIGNAL
(V2) : VIDEO 2 AUDIO SIGNAL
(A1) : AUDIO 1 SIGNAL
(A2) : AUDIO 1 SIGNAL
: AUDIO SIGNAL
: RECORDING SIGNAL
FAN TROUBLE DETECTION
CN5509
MAIN ROOM Cont
PIN NO. JA5502
1 +5V IN
2 IR IN
3 GNDD
4 +12V IN
5 S_REQ
6 S_CLK
7 S_DATA
8 D_CLK
9 D_REQ A
10 D_DATA
JA5510
SR_OUT
IR
+5.6V
GND
CN5502
1 LAMP5V
2 XLED. PW
3 XLED. DVD
4 XLED. PLAY
5 KEY1
6 D+5V
7 GNDD
M CN5901
E 2/3 CN105
CN5503
CN5506
CN5507
DVD_UPLOAD
E 2/3 CN106
H 2/2 CN7005
D+5. 6V
A+12V
A−12V
GNDD

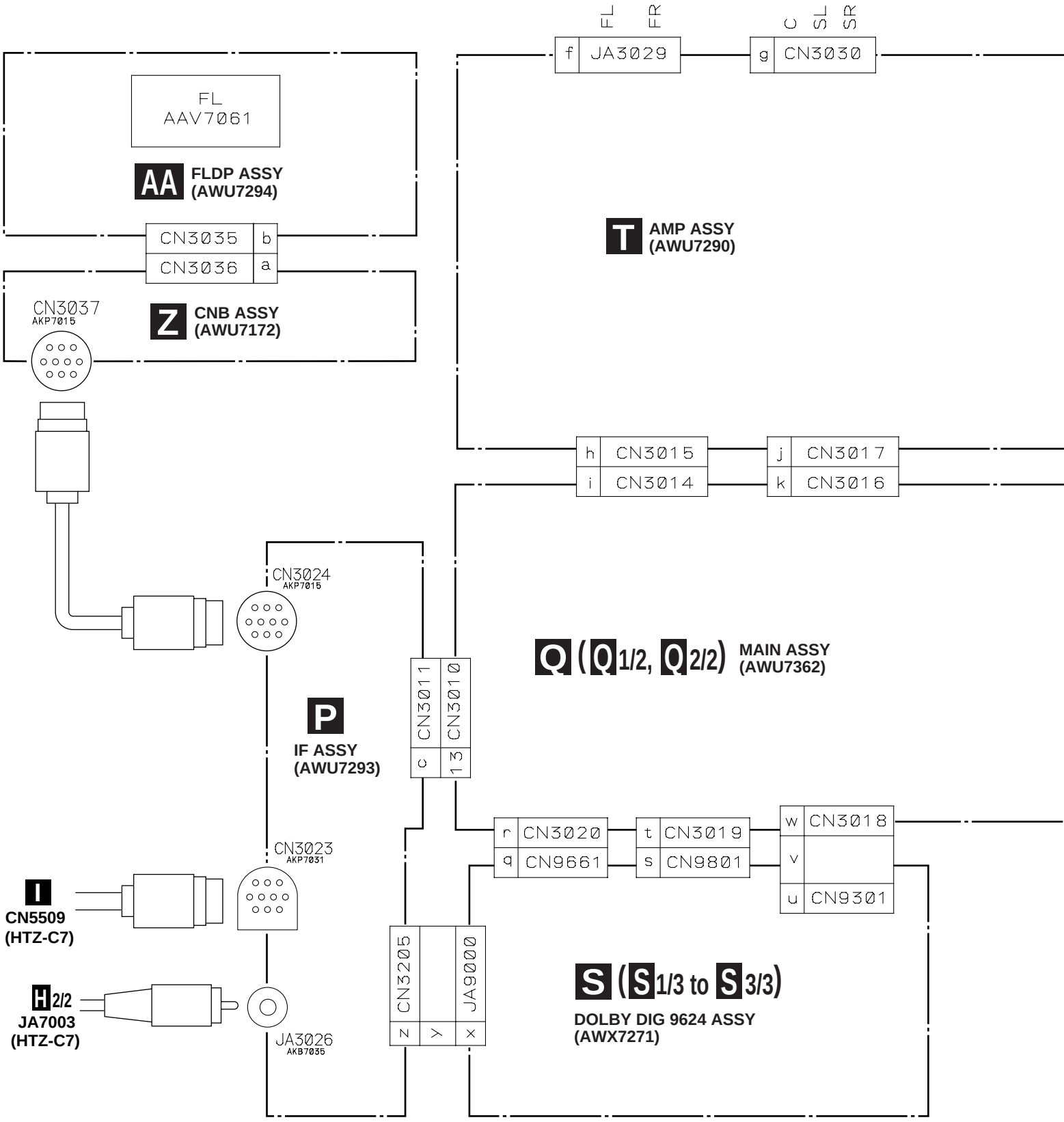
## 3.1.10 POWER MAIN ASSY, POWER SUB ASSY, FRONT (1) ASSY, FRONT (2) ASSY and LAMP ASSY




K POWER SUB ASSY (AWU7287)
HEAT SINK ANH7092
2SB1566 (EF)
2SB1566 (EF)
2SB1566 (EF)
2SB1566 (EF)
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE NO. 491001 MFD. BY LITTELFUSE INC. FOR IC16 (AEK7009).
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE NO. 491.500 MFD. BY LITTELFUSE INC. FOR IC17 (AEK7005).
CABLE HOLDER 51063-1305
J12 D15A13-125-2651
Note: If the parts are not identified in the diagram the followings are used.
Chip Transistor NPN: 2SC2412K (QR)–TLB
Chip Transistor PNP: 2SA1037K (QR)–TLB
Chip Digital Transistor NPN: DTC124EK–TLB
CN10 B14B-PH-K-S
GND
SW+12
SW+5
SW+3.3
E 1/3 CN101
IC18 AEK7023 491.200 (0.2A/125V)
Q20 2SD2395 (EF)
DC12V
DC3.9V
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE NO. 491.200 MFD. BY LITTELFUSE INC. FOR IC18 (AEK7023).
Q11 DTC114EK
DVD/CD: 0V TUNER: 5V
CN11 VKN1188
A-12V
TX+12V
3.3V DET
A+12V
GNDA
XDVD_ON
+12_IN
+12V (M)
LAMP5V
-12V (M)
GNDD
D+5.6V
I CN5501

## 3.2 POWERED SUBWOOFER (HTZ-SW7)

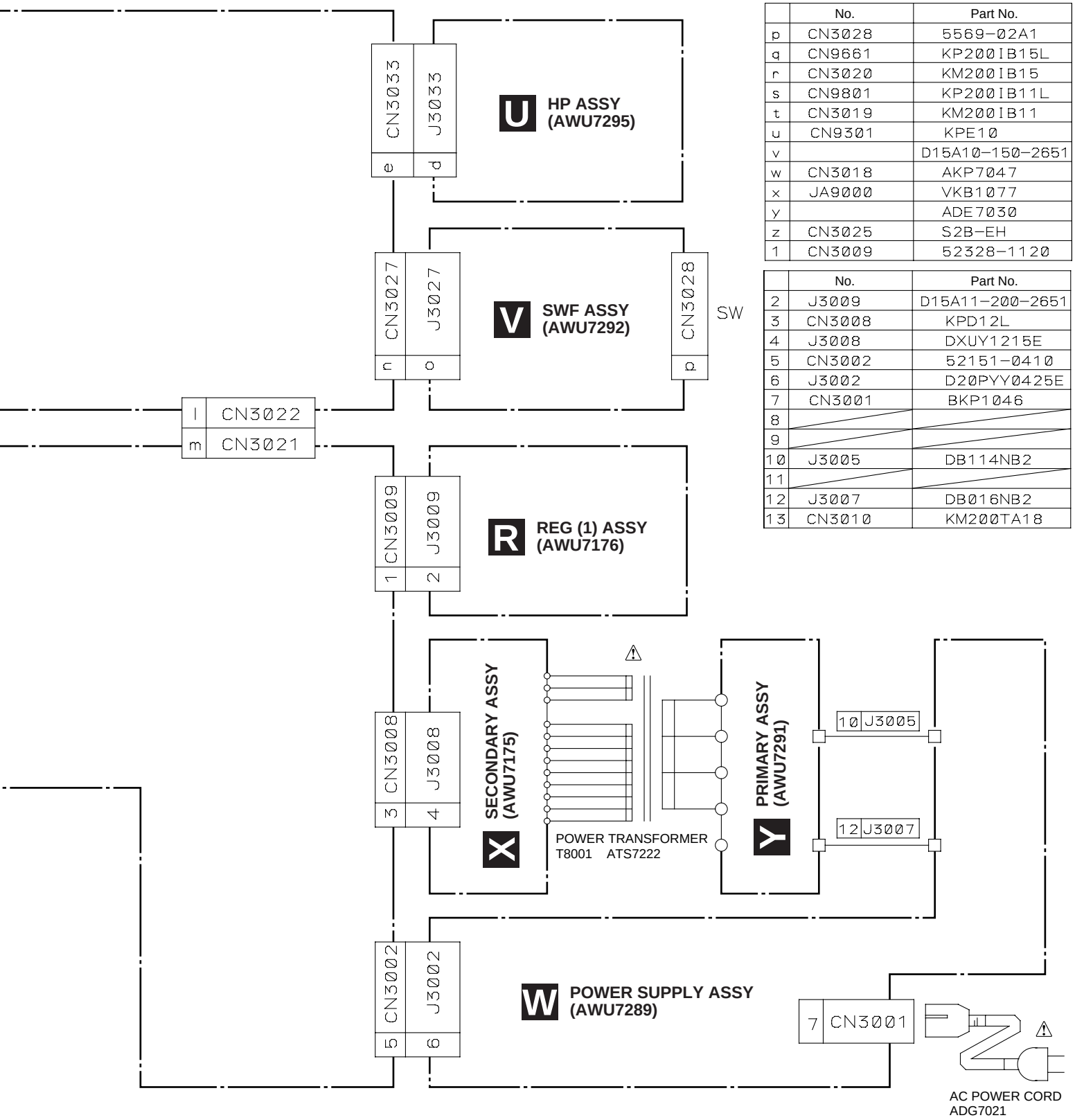
### 3.2.1 OVERALL CONNECTION DIAGRAM



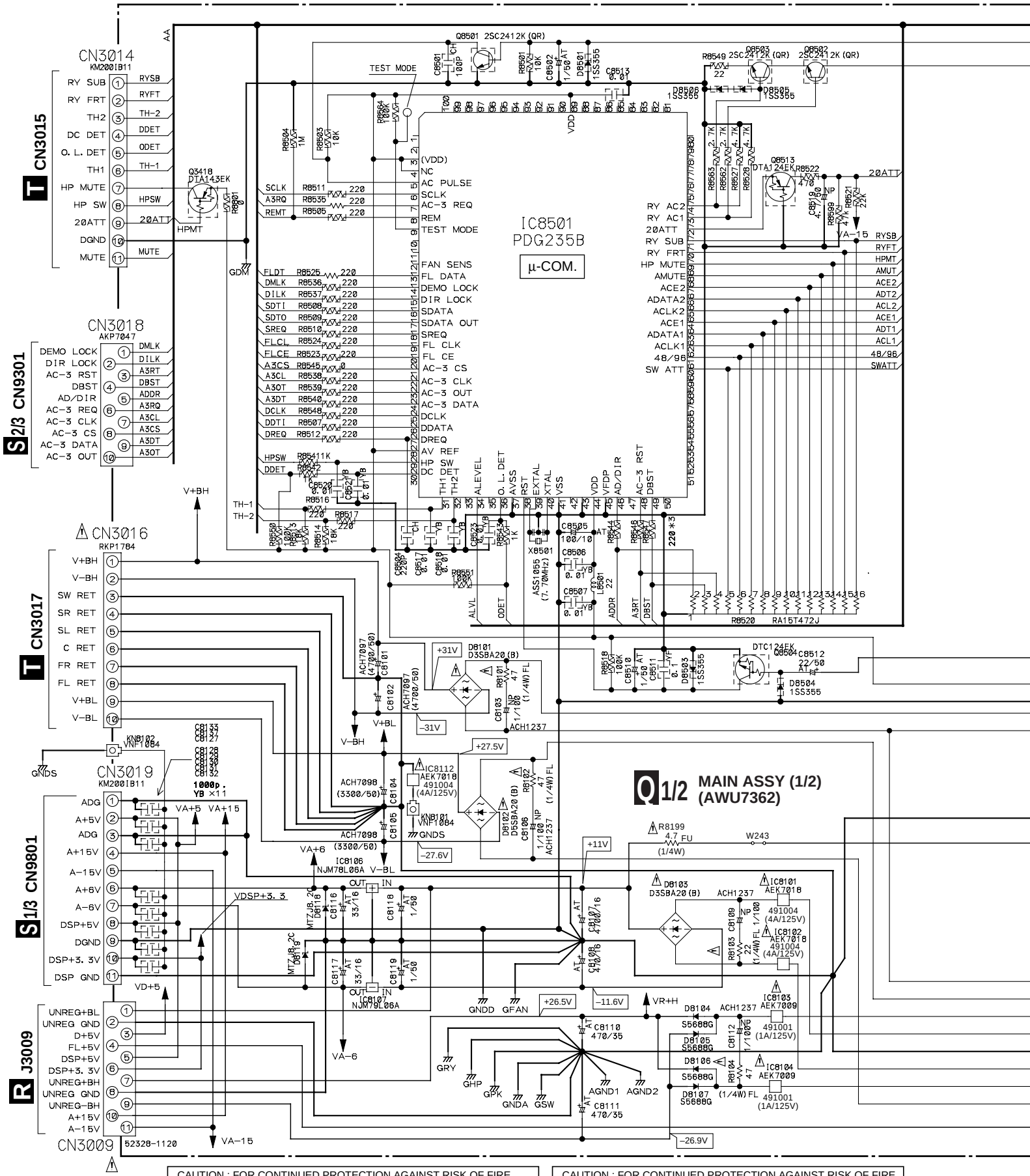
| | No. | Part No. | | No. | Part No. | | No. | Part No. |
|---|---|---|---|---|---|---|---|---|
| a | CN3036 | KM200TA10 | f | JA3029 | REK1003 | k | CN3016 | RKP1784 |
| b | CN3035 | KP200TA10 | g | CN3030 | AKE7020 | l | CN3022 | KP200IB19L |
| c | CN3011 | KP200TA18L | h | CN3015 | KP200IB11L | m | CN3021 | KM200IB19 |
| d | J3033 | ADE7035 | i | CN3014 | KM200IB11 | n | CN3027 | KPD3 |
| e | CN3033 | KPE6 | j | CN3017 | RKP1822 | o | J3027 | DXUY0310E |

| | No. | Part No. |
|---|---|---|
| p | CN3028 | 5569-02A1 |
| q | CN9661 | KP200IB15L |
| r | CN3020 | KM200IB15 |
| s | CN9801 | KP200IB11L |
| t | CN3019 | KM200IB11 |
| u | CN9301 | KPE10 |
| v | | D15A10-150-2651 |
| w | CN3018 | AKP7047 |
| x | JA9000 | VKB1077 |
| y | | ADE7030 |
| z | CN3025 | S2B-EH |
| 1 | CN3009 | 52328-1120 |

| | No. | Part No. |
|---|---|---|
| 2 | J3009 | D15A11-200-2651 |
| 3 | CN3008 | KPD12L |
| 4 | J3008 | DXUY1215E |
| 5 | CN3002 | 52151-0410 |
| 6 | J3002 | D20PYY0425E |
| 7 | CN3001 | BKP1046 |
| 8 | | |
| 9 | | |
| 10 | J3005 | DB114NB2 |
| 11 | | |
| 12 | J3007 | DB016NB2 |
| 13 | CN3010 | KM200TA18 |

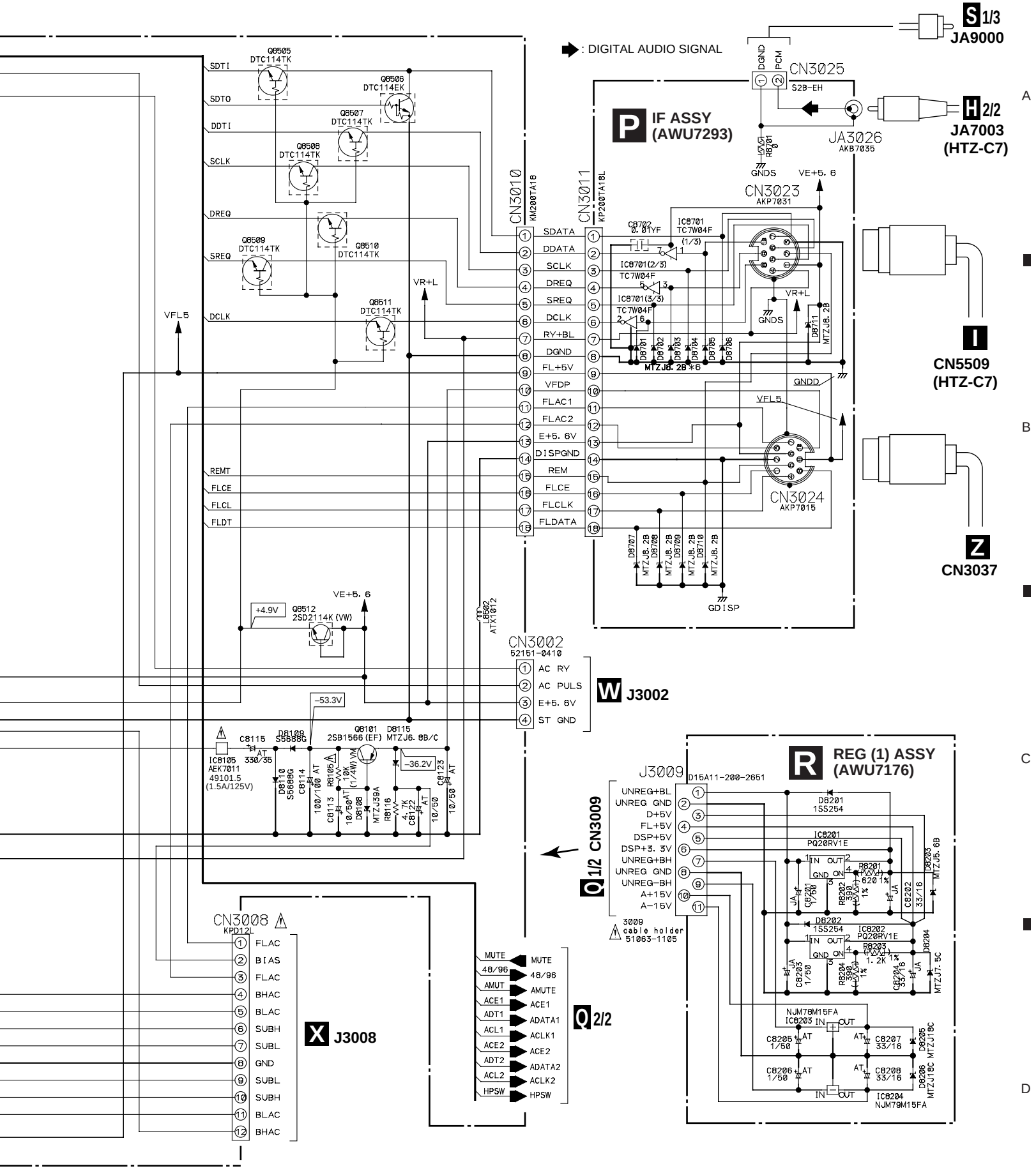


## 3.2.2 IF ASSY, MAIN ASSY (1/2) and REG (1) ASSY




CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE NO. 491004 MFD. BY LITTELFUSE INC. FOR IC8101, IC8102 and IC8112 (AEK7018).

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE NO. 491001 MFD. BY LITTELFUSE INC. FOR IC8103 and IC8104 (AEK7009).

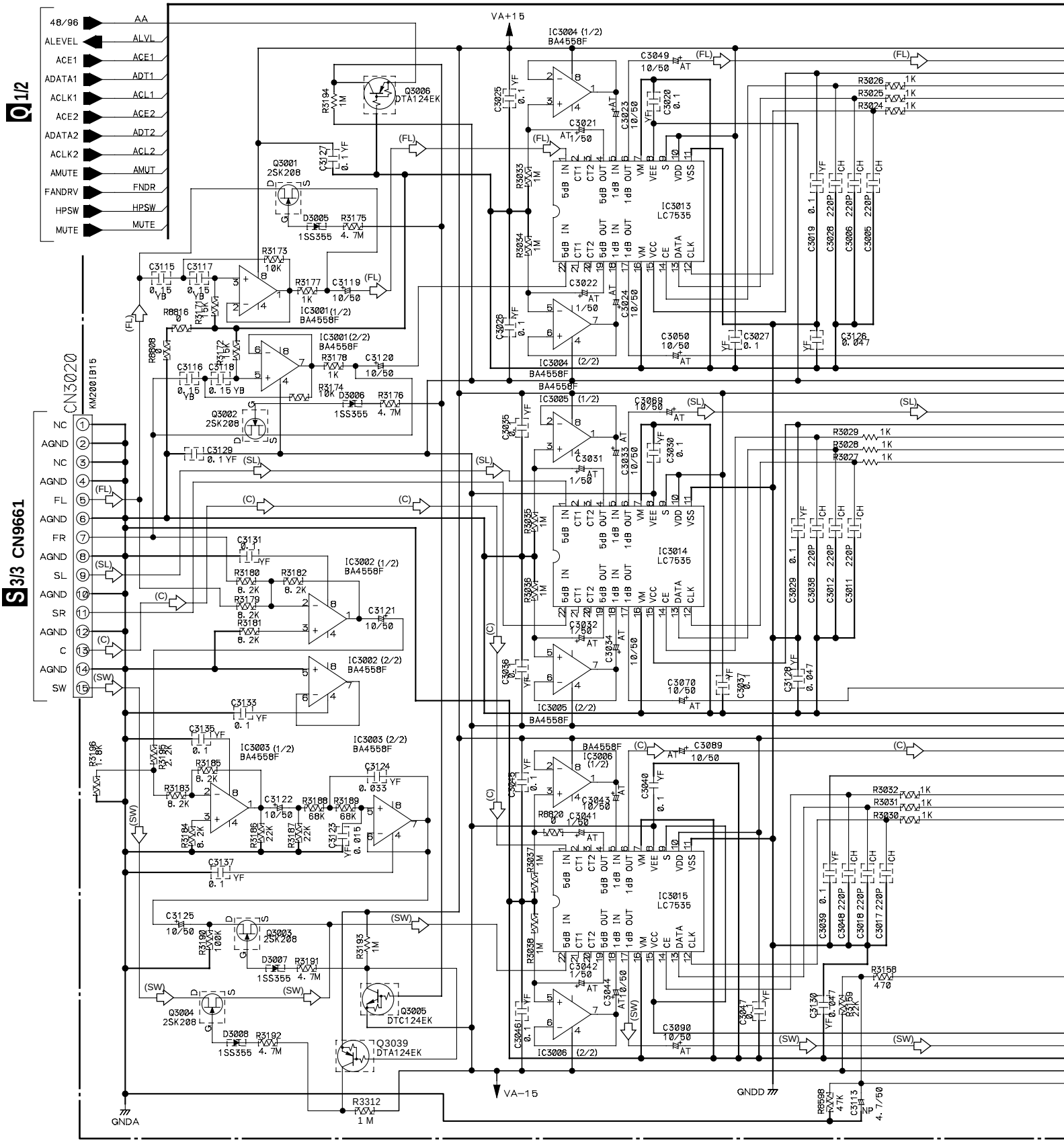



CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE NO. 49101.5 MFD. BY LITTELFUSE INC. FOR IC8105 (AEK7011).

## 3.2.3 MAIN ASSY (2/2)

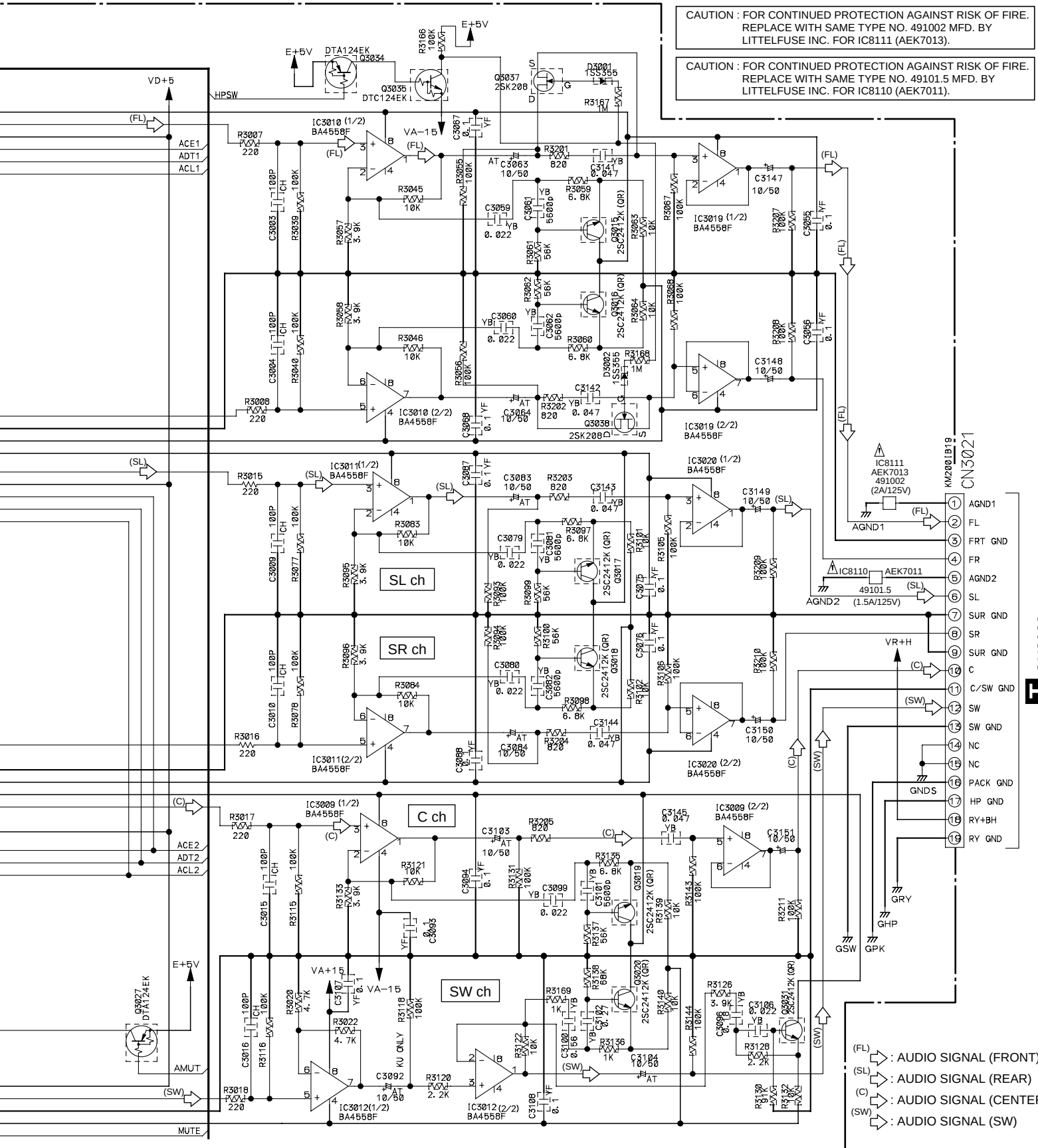
**Q 2/2** **MAIN ASSY (2/2)**
**(AWU7362)**

E–VR

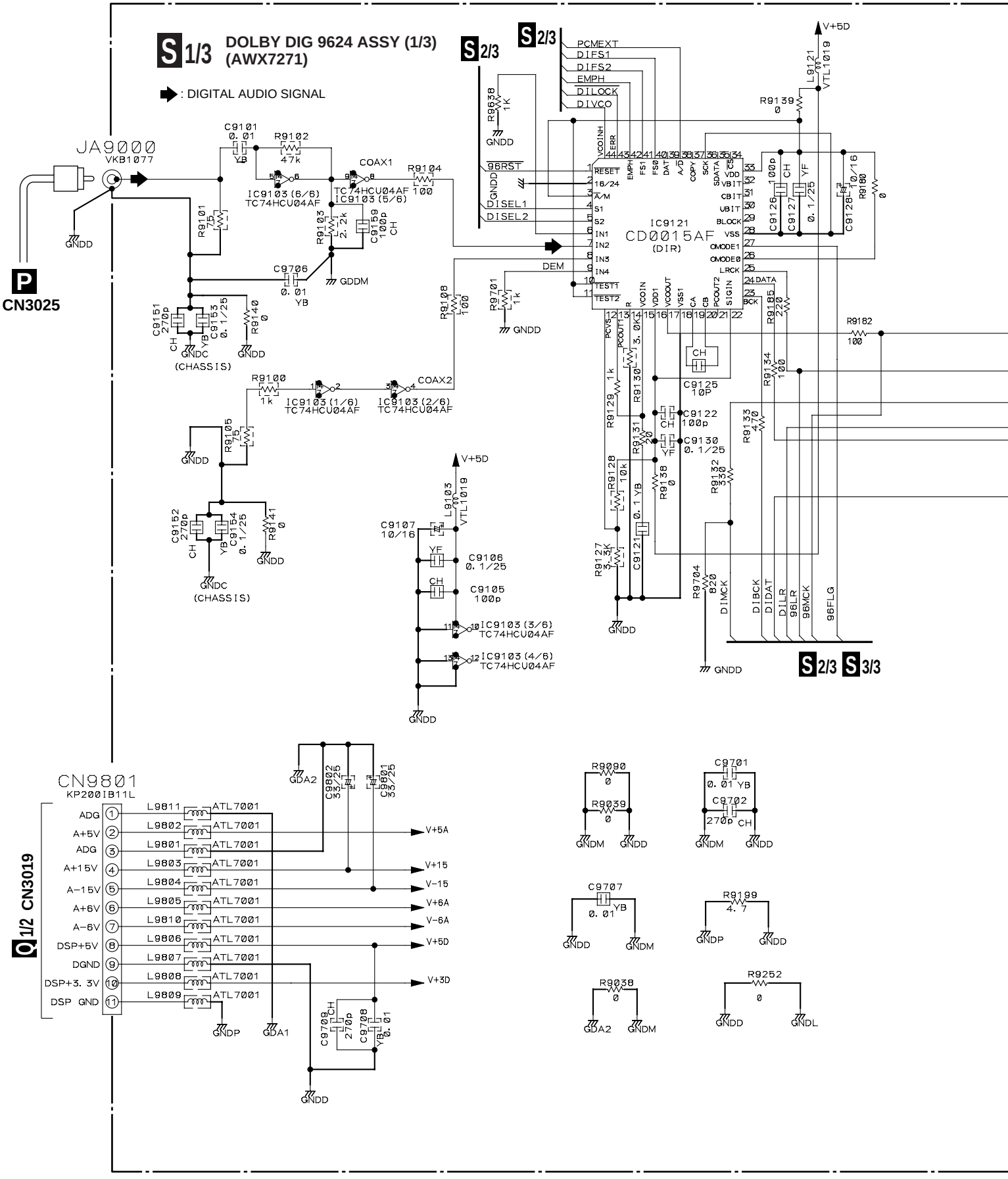


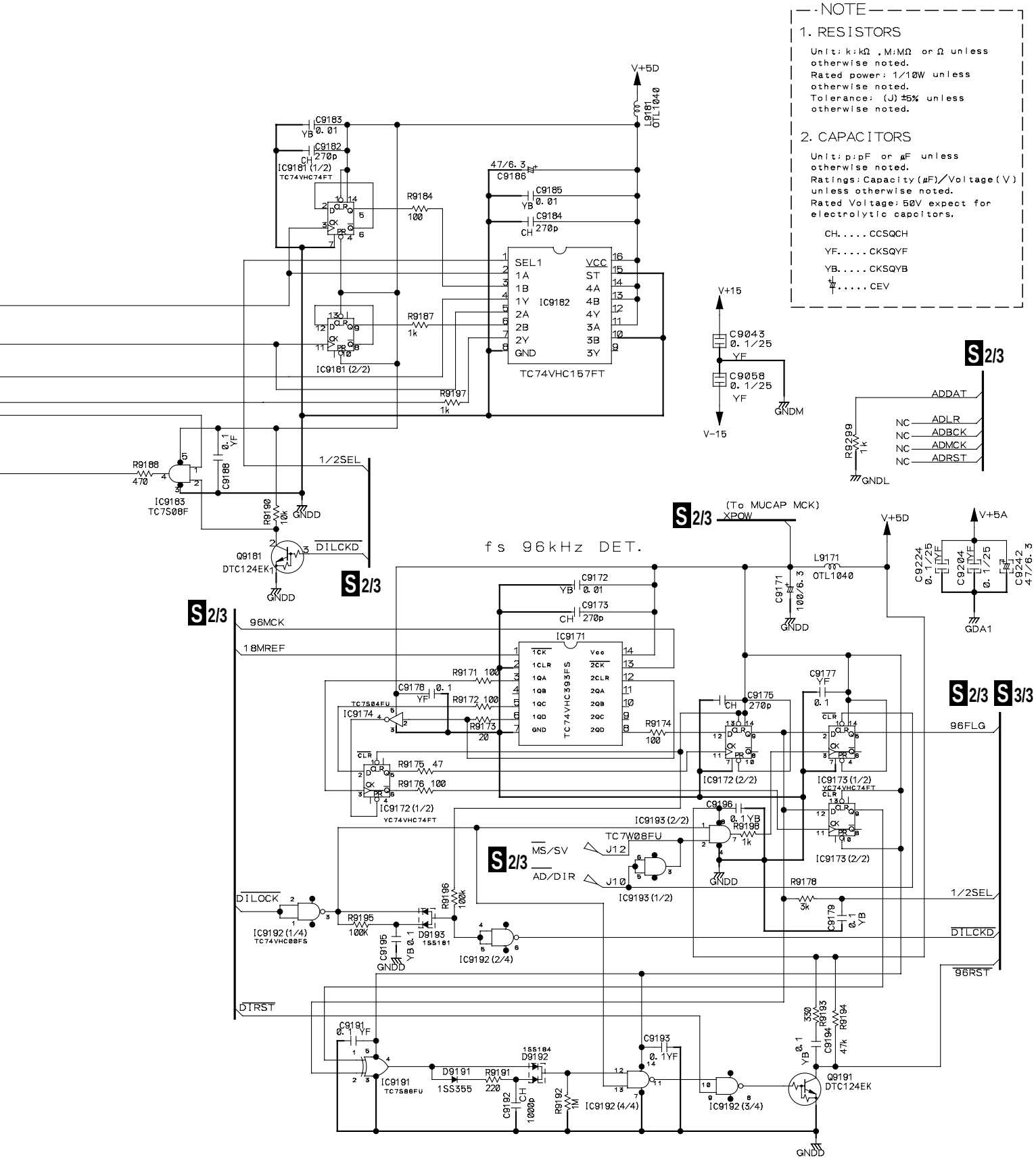
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE NO. 491002 MFD. BY LITTELFUSE INC. FOR IC8111 (AEK7013).

CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE NO. 49101.5 MFD. BY LITTELFUSE INC. FOR IC8110 (AEK7011).



## 3.2.4 DOLBY DIG 9624 ASSY (1/3)

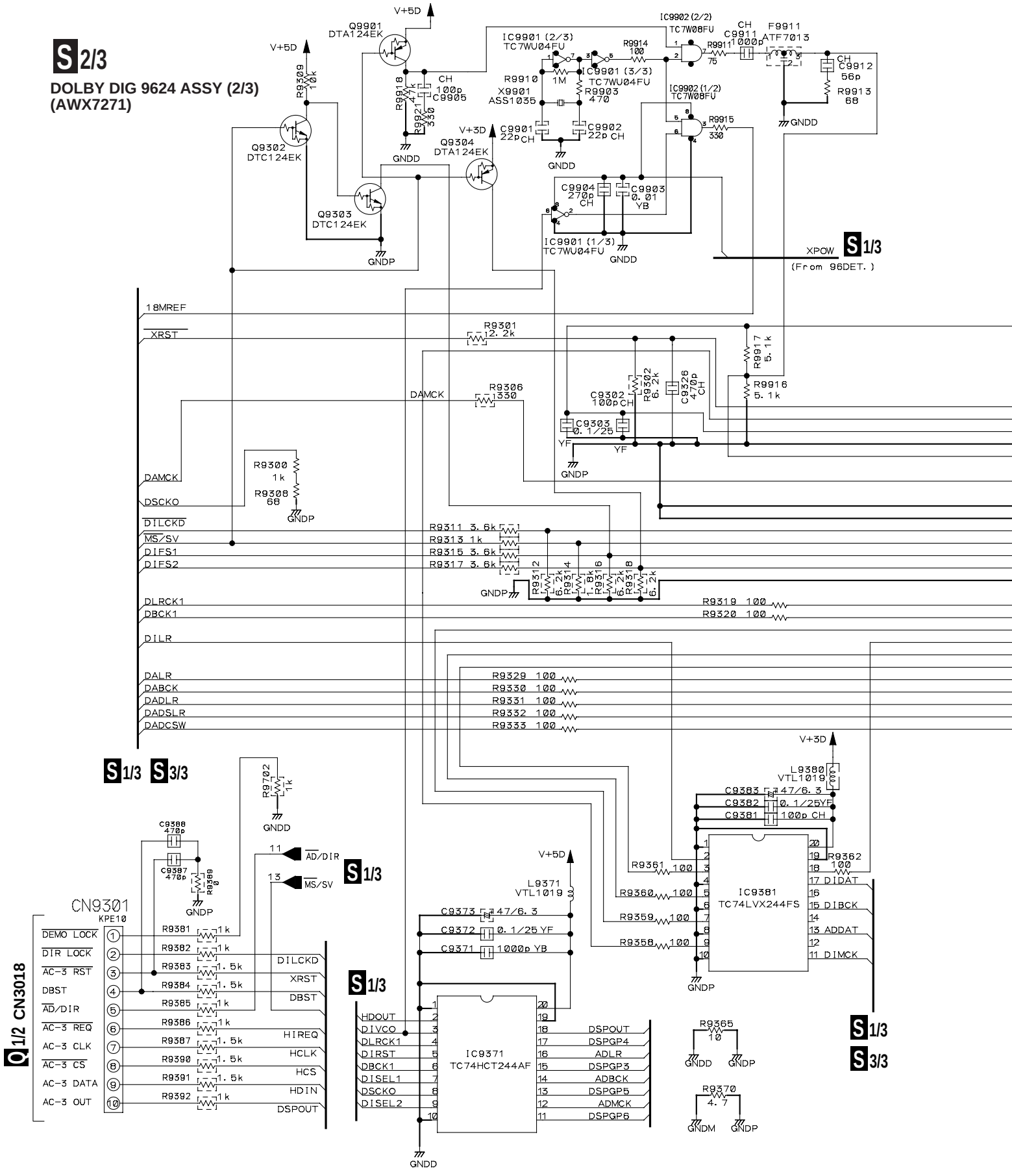


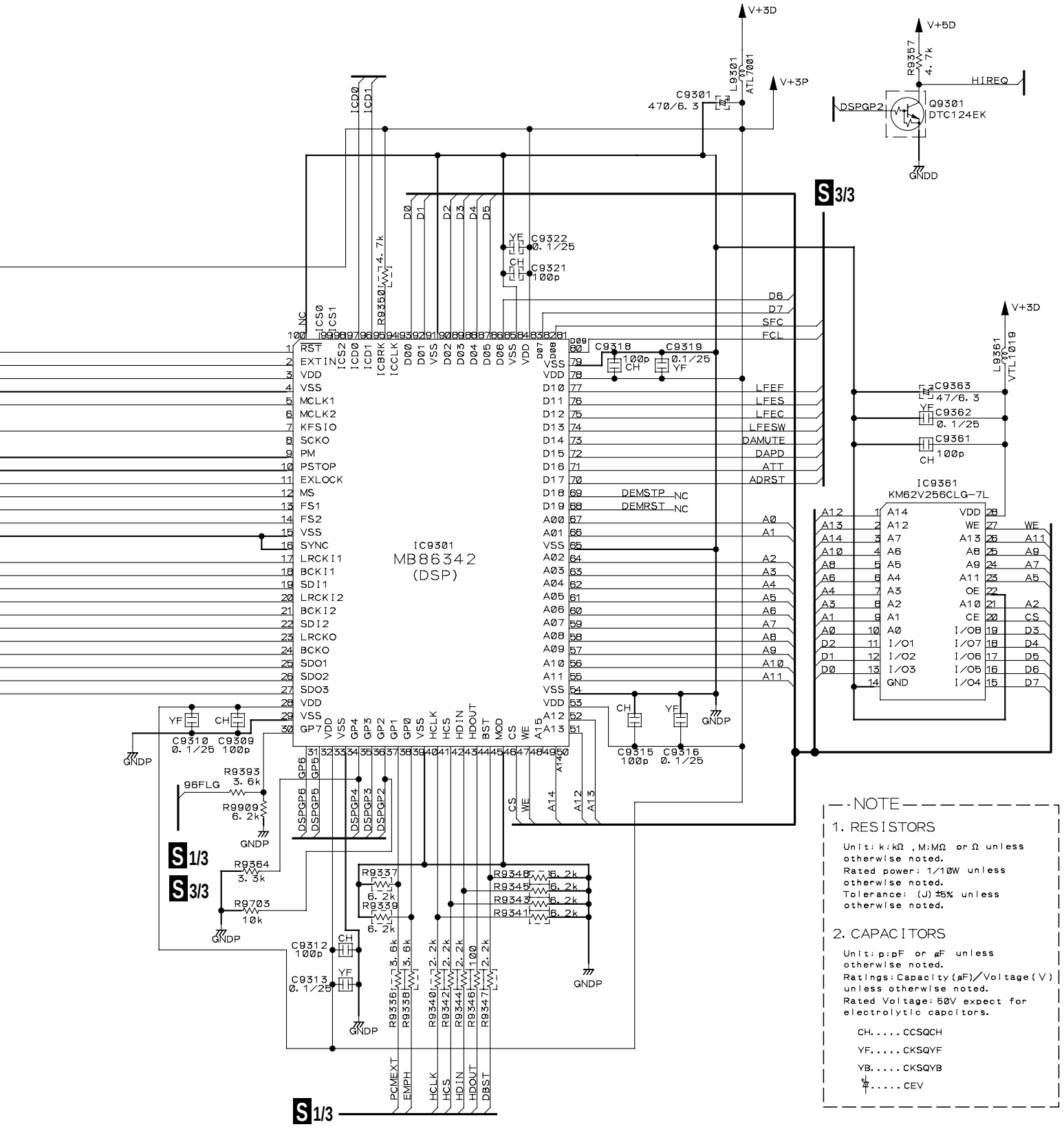

NOTE
1. RESISTORS
Unit: k;kΩ , M;MΩ or Ω unless otherwise noted.
Rated power: 1/10W unless otherwise noted.
Tolerance: (J) ±5% unless otherwise noted.
2. CAPACITORS
Unit: p;pF or μF unless otherwise noted.
Ratings: Capacity (μF)/Voltage (V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capcitors.
CH.....CCSQCH
YF.....CKSQYF
YB.....CKSQYB
.....CEV
fs 96kHz DET.
IC9181 (1/2)
IC9181 (2/2)
IC9182
TC74VHC157FT
IC9183
TC7S08F
IC9171
TC74VHC393FS
IC9172 (1/2)
IC9172 (2/2)
IC9173 (1/2)
IC9173 (2/2)
IC9174
TC7S04FU
IC9191
TC7S86FU
IC9192 (1/4)
IC9192 (2/4)
IC9192 (3/4)
IC9192 (4/4)
IC9193 (1/2)
IC9193 (2/2)
TC7W08FU
Q9181
DTC124EK
Q9191
DTC124EK
D9191
1SS355
D9192
1SS184
D9193
1SS181
L9171
OTL1040
L9181
OTL1040
V+5D
V+5A
V+15
V-15
GNDD
GNDM
GNDL
GDA1
1/2SEL
DILCKD
96MCK
18MREF
96FLG
96RST
DILOCK
DIRST
MS/SV
AD/DIR
(To MUCAP MCK)
XPOW
ADDAT
NC
ADLR
ADBCK
ADMCK
ADRST
S 2/3
S 3/3

## 3.2.5 DOLBY DIG 9624 ASSY (2/3)

**S 2/3**

**DOLBY DIG 9624 ASSY (2/3)**
**(AWX7271)**

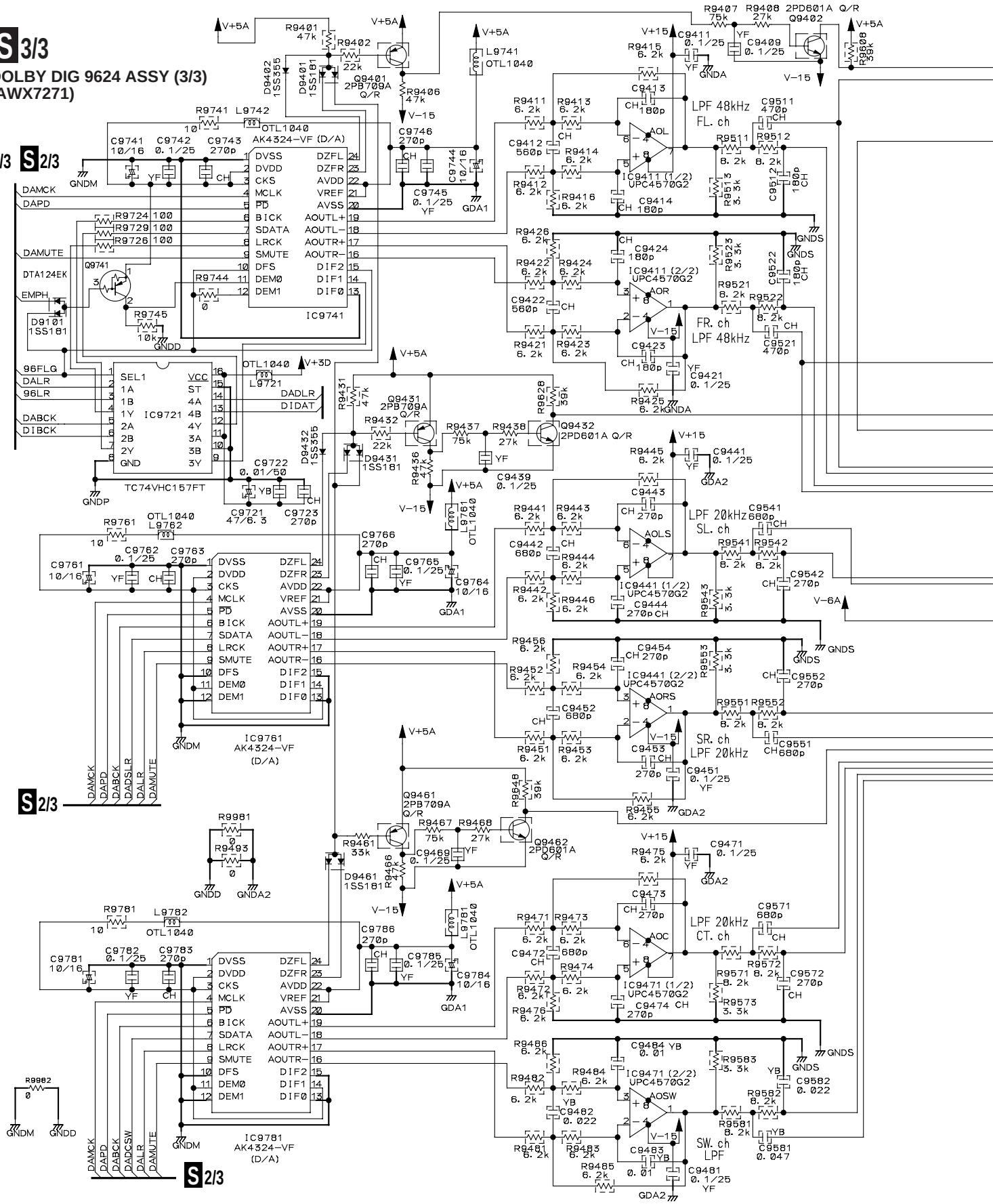


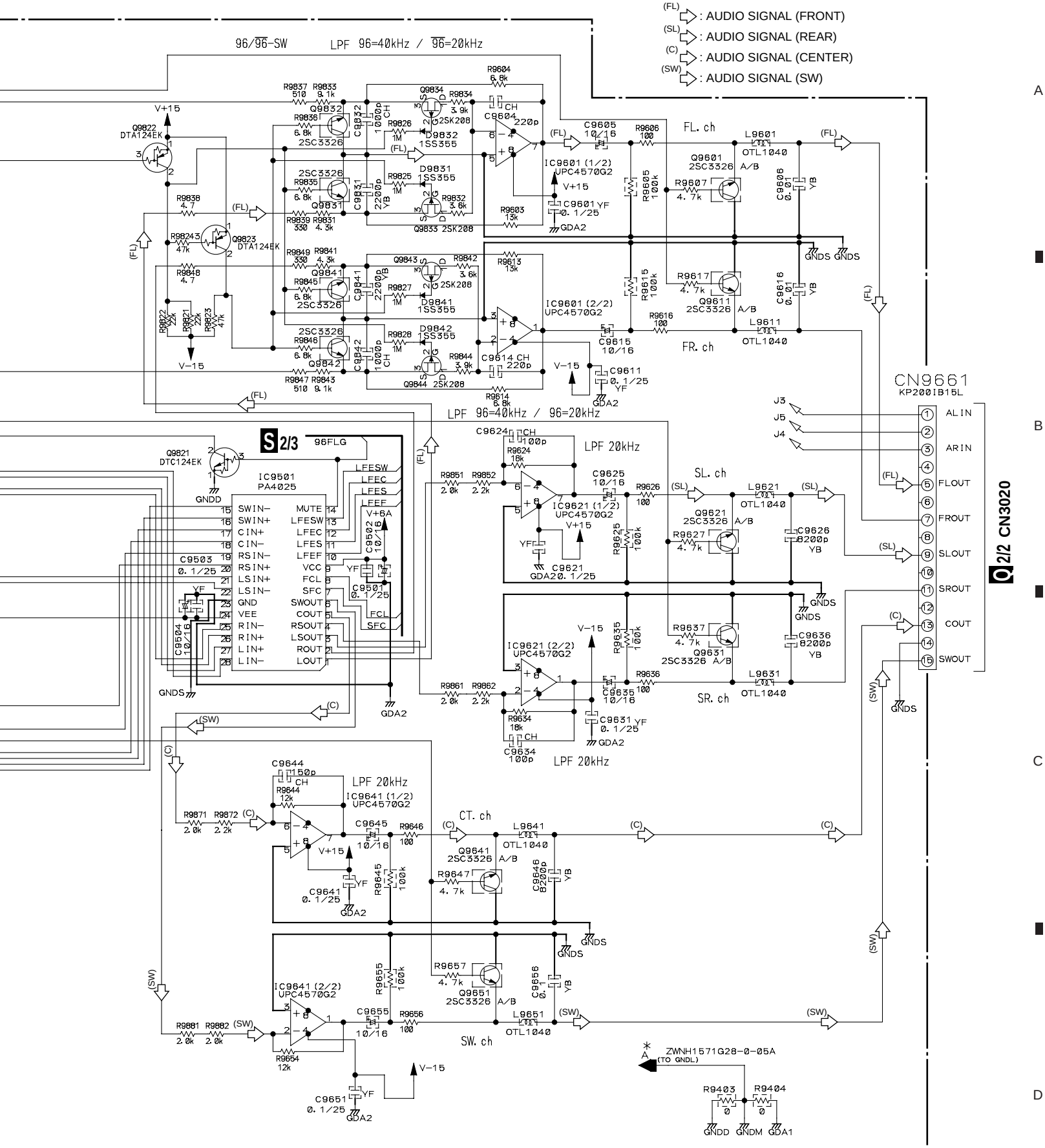

IC9301
MB86342
(DSP)
IC9361
KM62V256CLG-7L
V+3D
V+5D
V+3P
GNDP
GNDD
S 3/3
S 1/3
S 2/3
- NOTE -
1. RESISTORS
Unit: k:kΩ , M:MΩ or Ω unless otherwise noted.
Rated power: 1/10W unless otherwise noted.
Tolerance: (J)±5% unless otherwise noted.
2. CAPACITORS
Unit: p:pF or μF unless otherwise noted.
Ratings: Capacity(μF)/Voltage(V) unless otherwise noted.
Rated Voltage: 50V expect for electrolytic capcitors.
CH.....CCSQCH
YF.....CKSQYF
YB.....CKSQYB
.....CEV

## 3.2.6 DOLBY DIG 9624 ASSY (3/3)

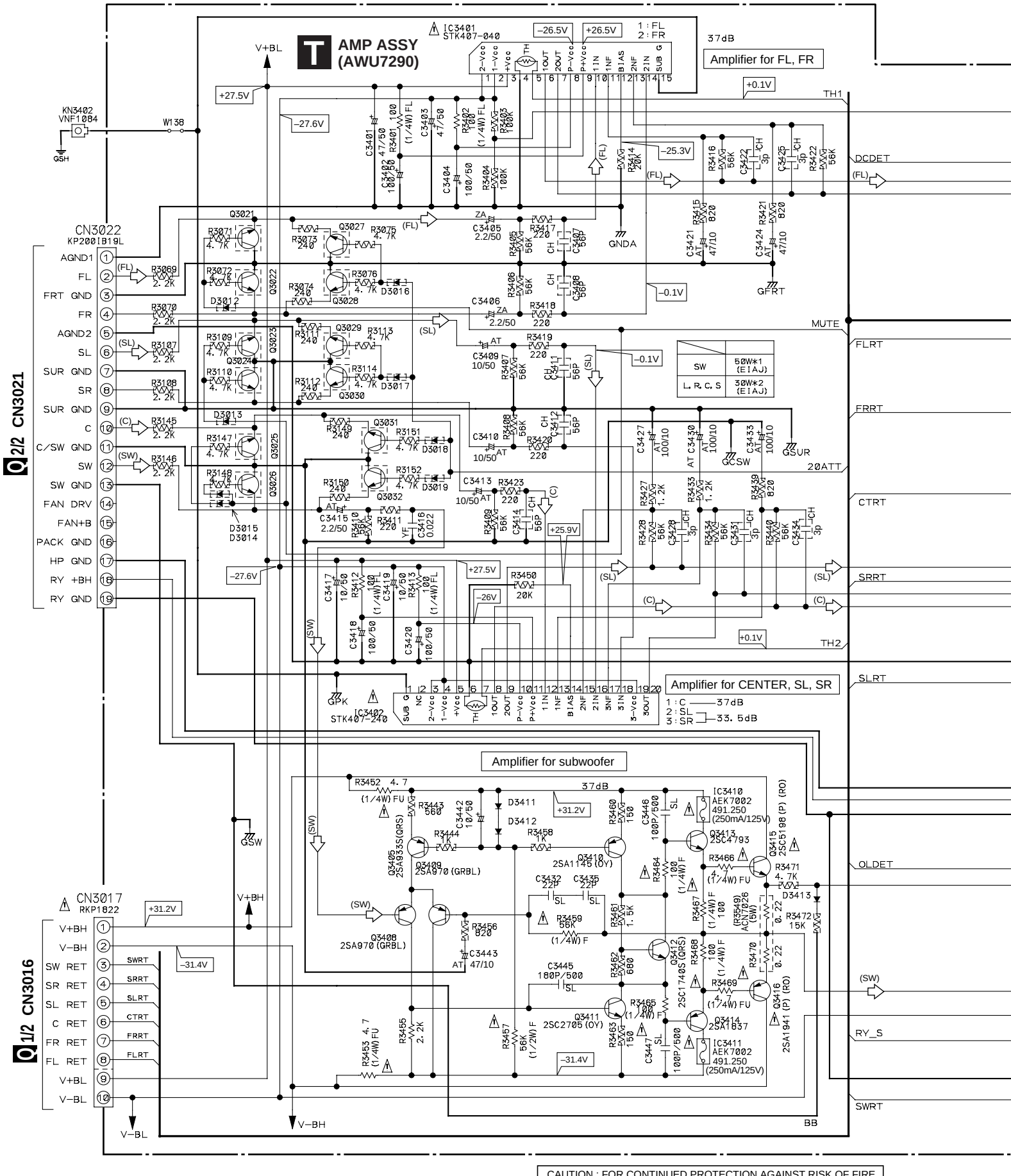
**S 3/3**

**DOLBY DIG 9624 ASSY (3/3)**
**(AWX7271)**

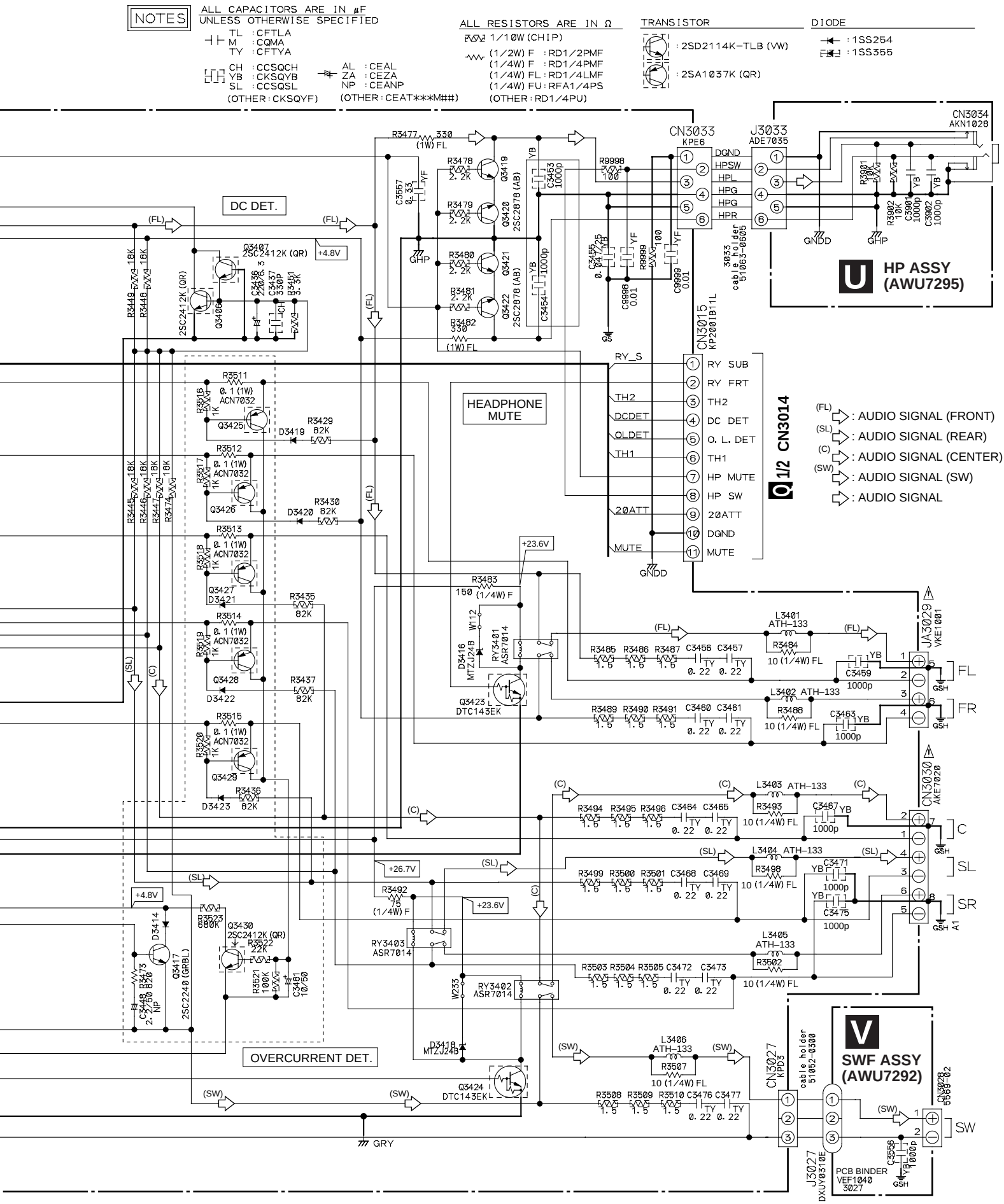



(FL) : AUDIO SIGNAL (FRONT)
(SL) : AUDIO SIGNAL (REAR)
(C) : AUDIO SIGNAL (CENTER)
(SW) : AUDIO SIGNAL (SW)
96/96-SW
LPF 96=40kHz / 96=20kHz
IC9501 PA4025
IC9601 (1/2) UPC4570G2
IC9601 (2/2) UPC4570G2
IC9621 (1/2) UPC4570G2
IC9621 (2/2) UPC4570G2
IC9641 (1/2) UPC4570G2
IC9641 (2/2) UPC4570G2
FL. ch
FR. ch
SL. ch
SR. ch
CT. ch
SW. ch
LPF 20kHz
CN9661 KP200IB15L
Q2/2 CN3020
ZWNH1571G28-0-05A (TO GNDL)
S 2/3
S 3/3
49

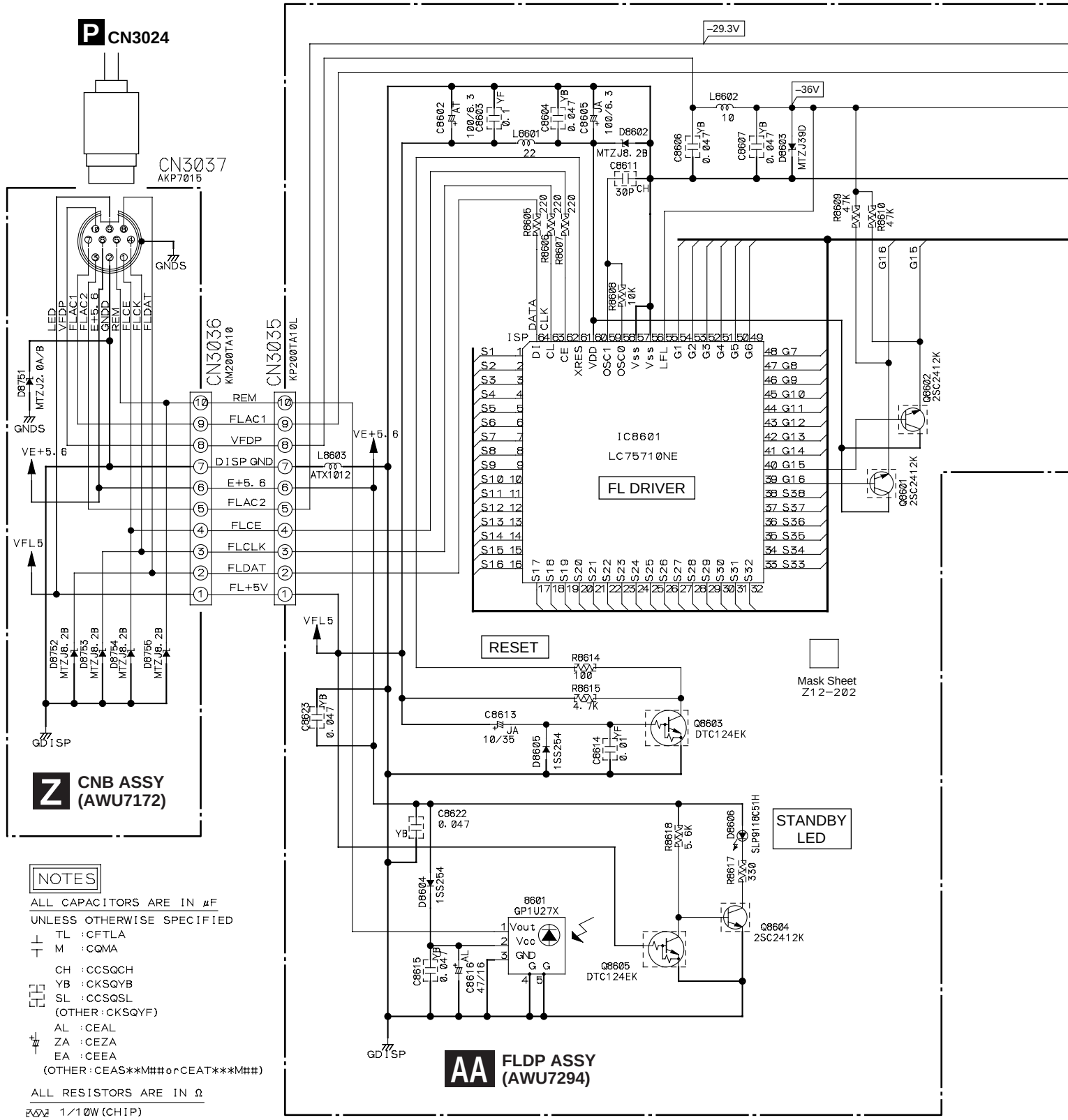
## 3.2.7 AMP ASSY, HP ASSY and SWF ASSY




CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE NO. 491.250 MFD. BY LITTELFUSE INC. FOR IC3410 and IC3411 (AEK7002).


NOTES
ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED
TL : CFTLA
M : CQMA
TY : CFTYA
CH : CCSQCH
YB : CKSQYB
SL : CCSQSL
(OTHER : CKSQYF)
AL : CEAL
ZA : CEZA
NP : CEANP
(OTHER : CEAT***M##)
ALL RESISTORS ARE IN Ω
1/10W (CHIP)
(1/2W) F : RD1/2PMF
(1/4W) F : RD1/4PMF
(1/4W) FL : RD1/4LMF
(1/4W) FU : RFA1/4PS
(OTHER : RD1/4PU)
TRANSISTOR
: 2SD2114K-TLB (VW)
: 2SA1037K (QR)
DIODE
: 1SS254
: 1SS355
DC DET.
HEADPHONE MUTE
OVERCURRENT DET.
CN3033 KPE6
J3033 ADE7035
CN3034 AKN1028
DGND
HPSW
HPL
HPG
HPG
HPR
GNDD
GHP
U HP ASSY (AWU7295)
CN3015 KP2001B11L
RY_S
RY SUB
RY FRT
TH2
DC DET
O. L. DET
TH1
HP MUTE
HP SW
20ATT
DGND
MUTE
Q 1/2 CN3014
(FL) : AUDIO SIGNAL (FRONT)
(SL) : AUDIO SIGNAL (REAR)
(C) : AUDIO SIGNAL (CENTER)
(SW) : AUDIO SIGNAL (SW)
: AUDIO SIGNAL
JA3029 VKE1001
FL
FR
CN3030 AKE7020
C
SL
SR
V SWF ASSY (AWU7292)
CN3027 KPD3
J3027 DXUV0310E
PCB BINDER VEF1040 3027
CN3028 5569-02
SW
GRY
+4.8V
+23.6V
+26.7V

## 3.2.8 POWER SUPPLY ASSY, SECONDARY ASSY, PRIMARY ASSY, CNB ASSY and FLDP ASSY

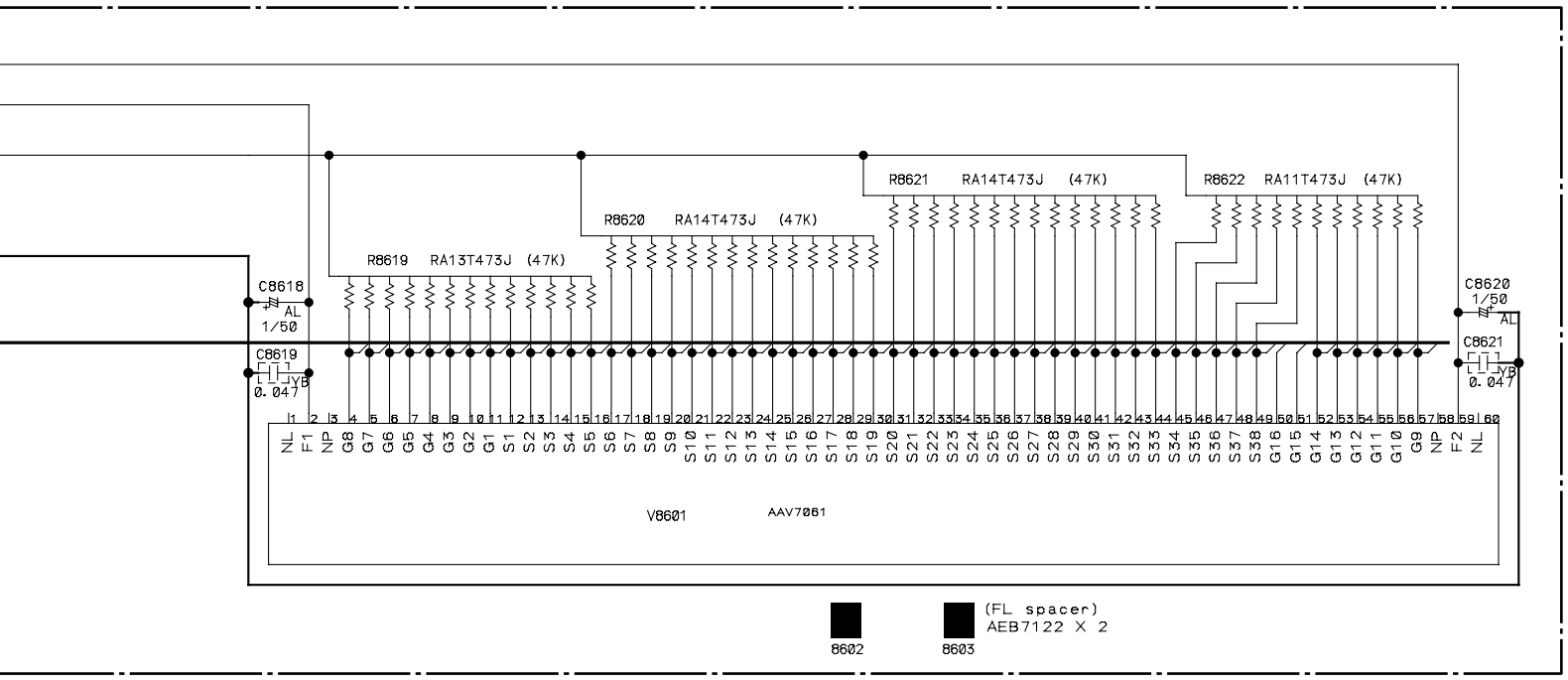


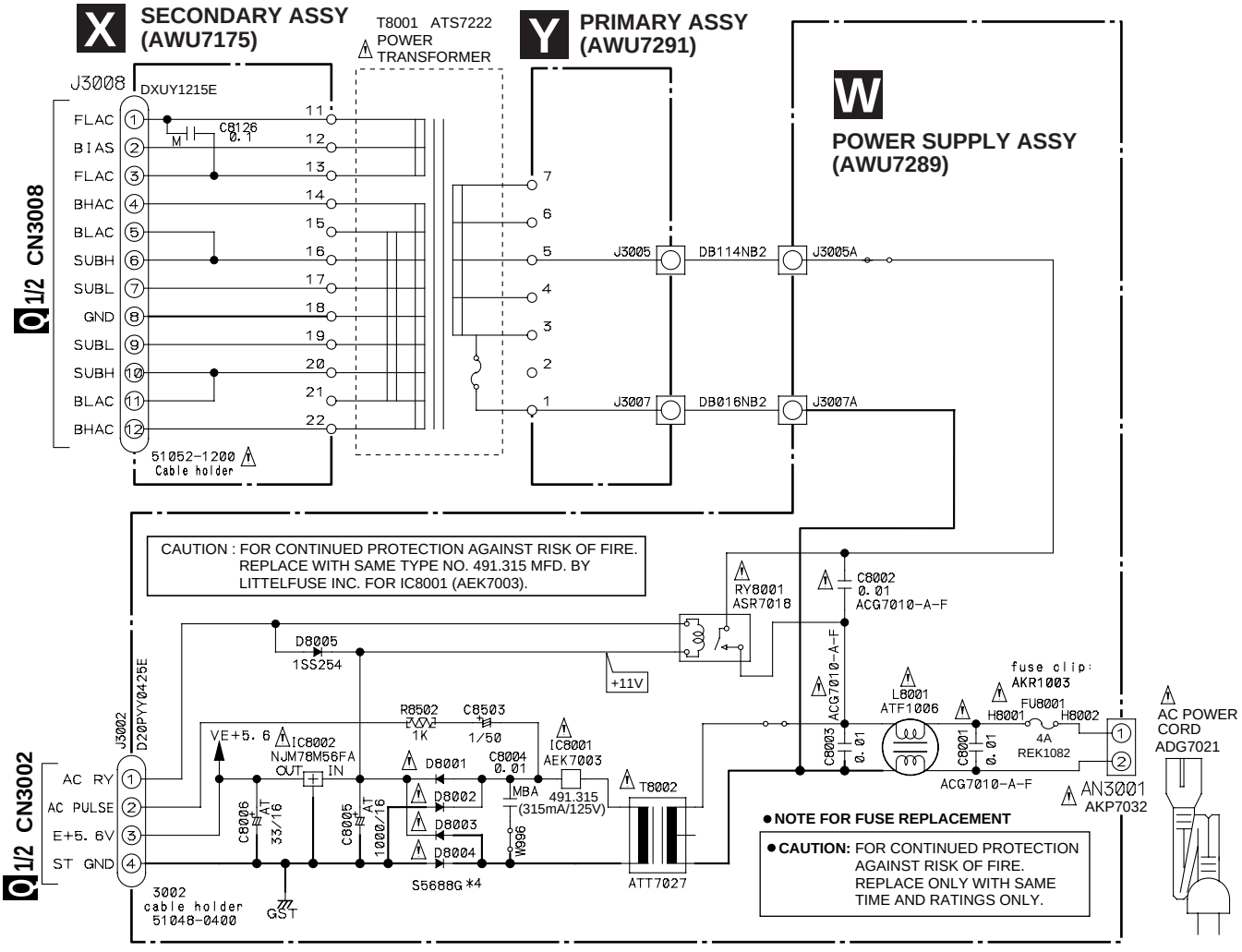

NOTES

ALL CAPACITORS ARE IN μF
UNLESS OTHERWISE SPECIFIED
TL : CFTLA
M : CQMA
CH : CCSQCH
YB : CKSQYB
SL : CCSQSL
(OTHER : CKSQYF)
AL : CEAL
ZA : CEZA
EA : CEEA
(OTHER : CEAS**M##orCEAT***M##)

ALL RESISTORS ARE IN Ω
1/10W (CHIP)
1/4WPU

ALL INDUCTORS ARE IN μH
LAU

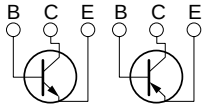
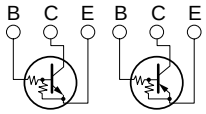
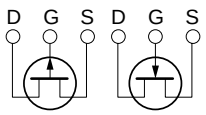

R8621 RA14T473J (47K)
R8622 RA11T473J (47K)
R8620 RA14T473J (47K)
R8619 RA13T473J (47K)
C8618 AL 1/50
C8619 YB 0.047
C8620 1/50 AL
C8621 YB 0.047
V8601 AAV7061
B602
B603
(FL spacer) AEB7122 X 2

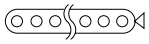
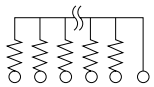
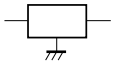

X SECONDARY ASSY (AWU7175)
T8001 ATS7222 POWER TRANSFORMER
Y PRIMARY ASSY (AWU7291)
W POWER SUPPLY ASSY (AWU7289)
J3008 DXUY1215E
Q1/2 CN3008
FLAC BIAS FLAC BHAC BLAC SUBH SUBL GND SUBL SUBH BLAC BHAC
C8126 0.1
51052-1200 Cable holder
J3005 DB114NB2 J3005A
J3007 DB016NB2 J3007A
CAUTION : FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE WITH SAME TYPE NO. 491.315 MFD. BY LITTELFUSE INC. FOR IC8001 (AEK7003).
RY8001 ASR7018
C8002 0.01 ACG7010-A-F
D8005 1SS254
+11V
J3002 D20PY0425E
Q1/2 CN3002
AC RY AC PULSE E+5.6V ST GND
VE+5.6
IC8002 NJM78M56FA OUT IN
R8502 1K
C8503 1/50
D8001 D8002 D8003 D8004
C8004 0.01
IC8001 AEK7003
MBA 491.315 (315mA/125V)
T8002 ATT7027
S5688G *4
C8006 AT 33/16
C8005 AT 1000/16
W996
3002 cable holder 51048-0400
GST
C8003 0.01 ACG7010-A-F
L8001 ATF1006
C8001 0.01 ACG7010-A-F
fuse clip: AKR1003
FU8001 4A REK1082
H8001 H8002
AC POWER CORD ADG7021
AN3001 AKP7032
● NOTE FOR FUSE REPLACEMENT
● CAUTION: FOR CONTINUED PROTECTION AGAINST RISK OF FIRE. REPLACE ONLY WITH SAME TIME AND RATINGS ONLY.

# 4. PCB CONNECTION DIAGRAM

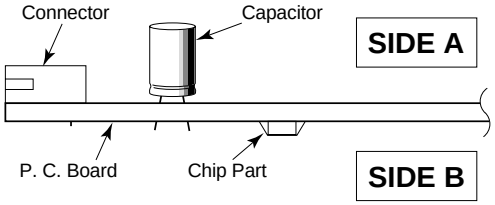
**NOTE FOR PCB DIAGRAMS:**

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

| Symbol in PCB Diagrams | Symbol in Schematic Diagrams | Part Name |
|---|---|---|
| |   | Transistor |
| |   | Transistor with resistor |
| |   | Field effect transistor |

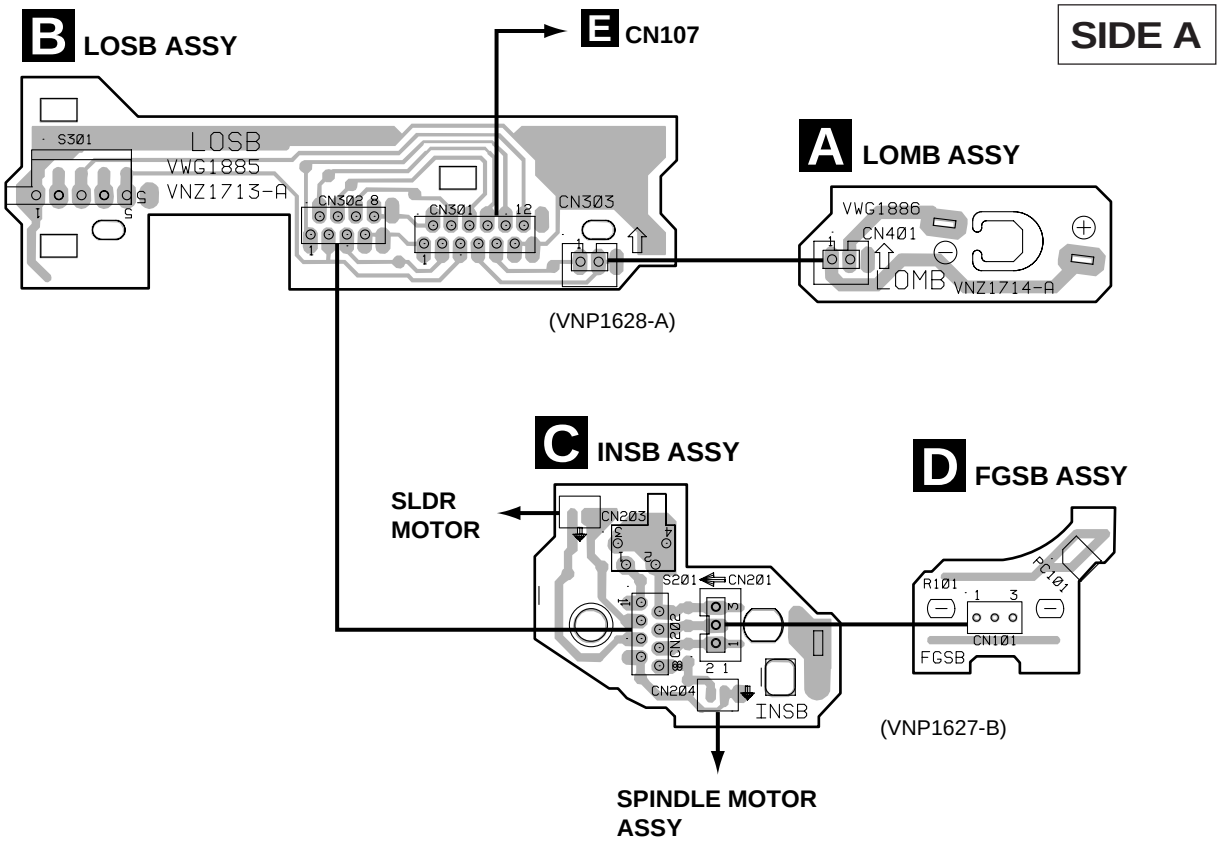
| Symbol in PCB Diagrams | Symbol in Schematic Diagrams | Part Name |
|---|---|---|
|  |  | Resistor array |
| |  | 3-terminal regulator |

3. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. Viewpoint of PCB diagrams




## 4.1 DVD CENTER UNIT (HTZ-C7)

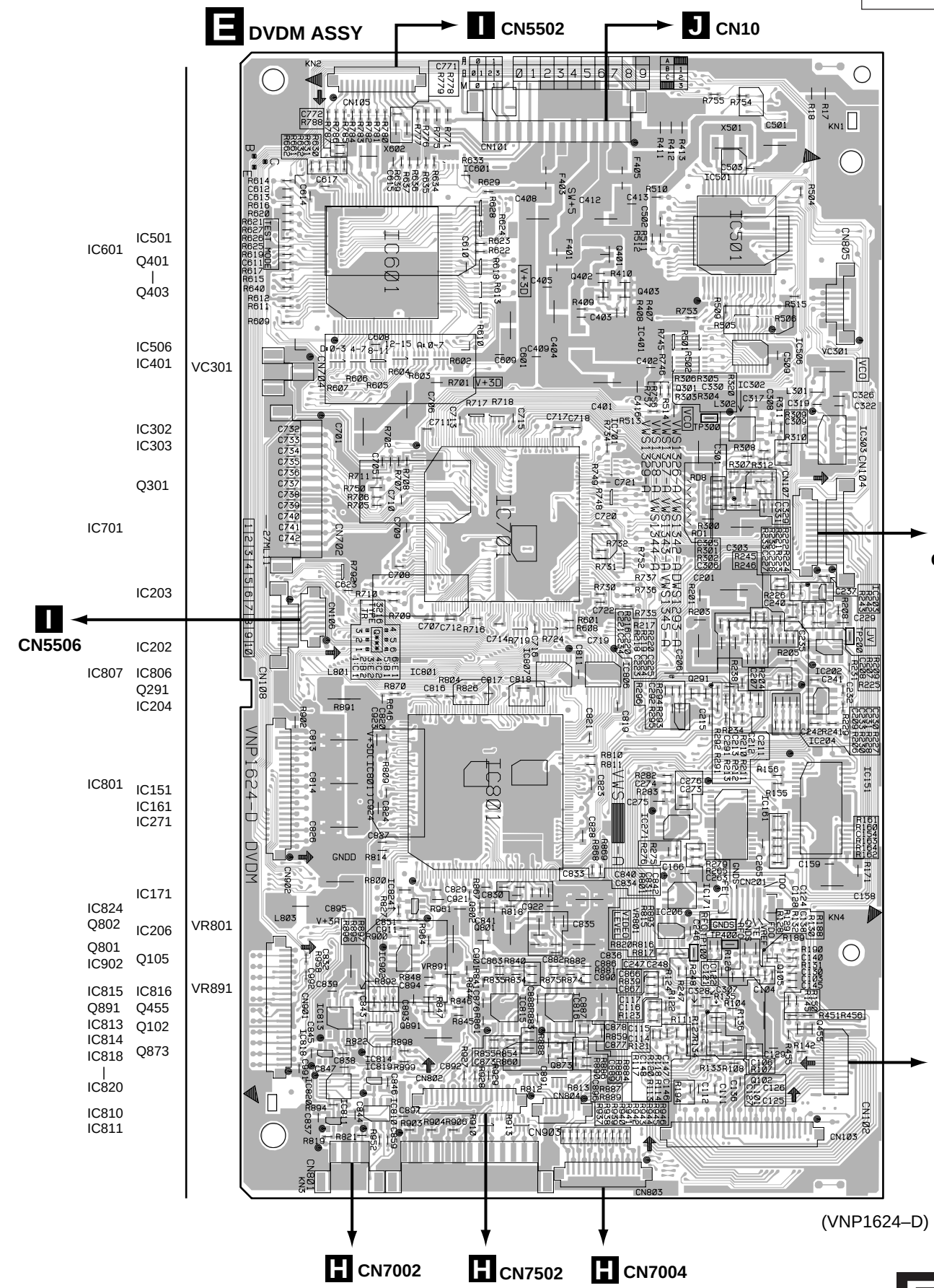
### 4.1.1 LOMB, LOSB, INSB and FGSB ASSEMBLIES



## 4.1.2 DVDM ASSY

- This PCB is a four-layered board.
  Midddle layer is a mainly connected to Vcc and GND.

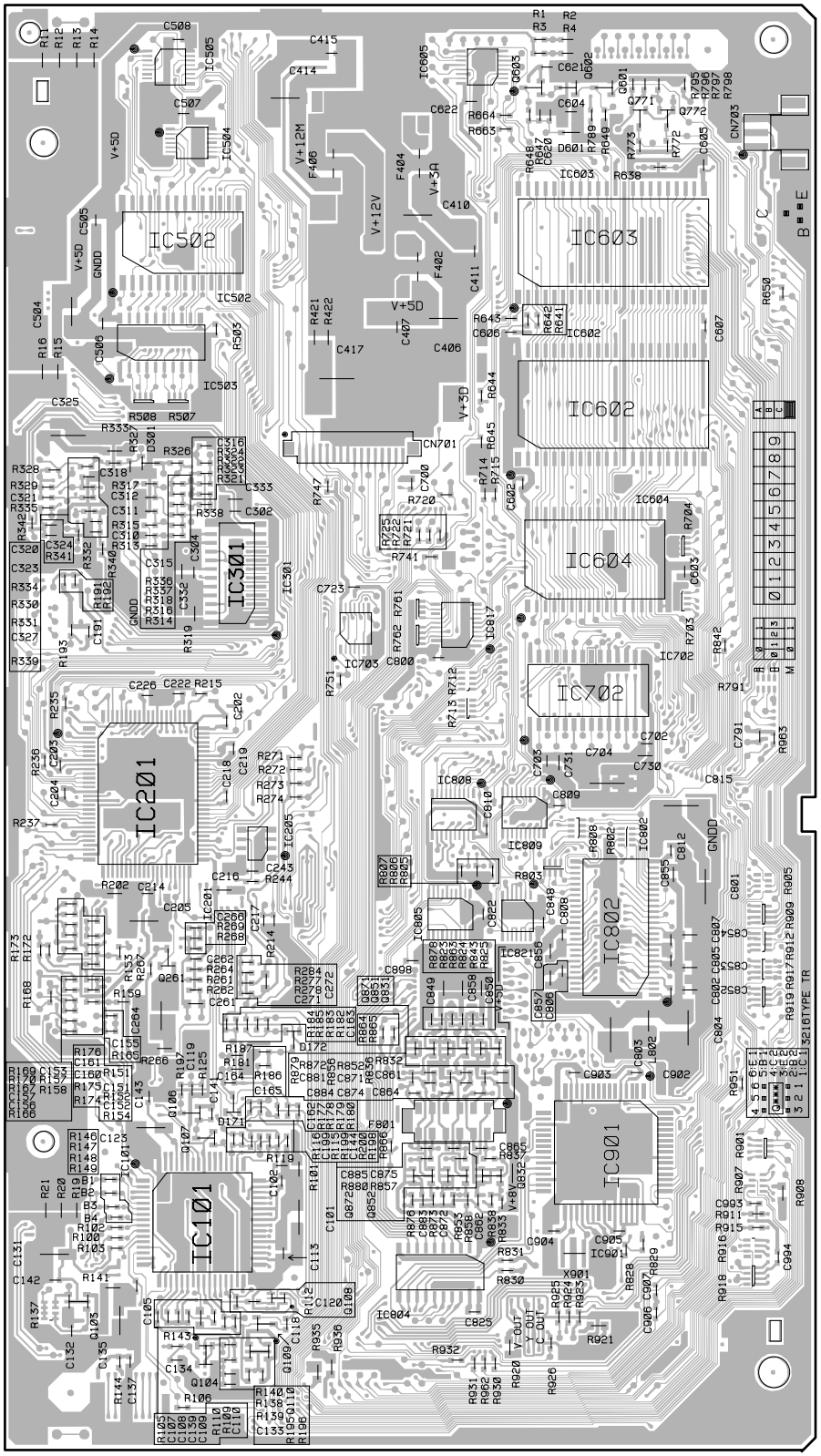
**SIDE A**



• This PCB is a four-layered board.
Midddle layer is a mainly connected to Vcc and GND.

**SIDE B**

## E DVDM ASSY



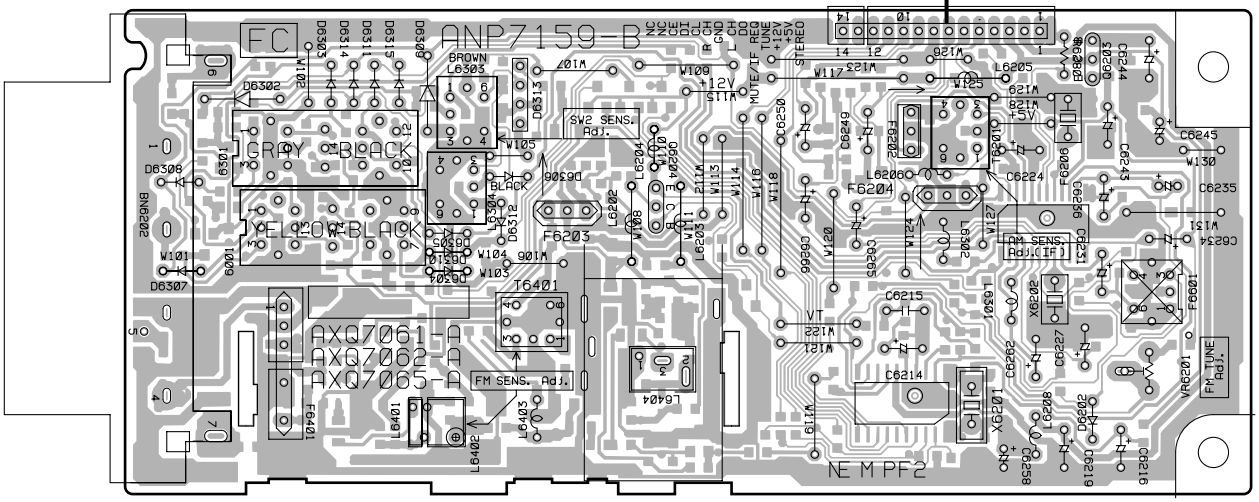

(VNP1624-D)

## 4.1.3 FM/AM TUNER MODULE

**SIDE A**

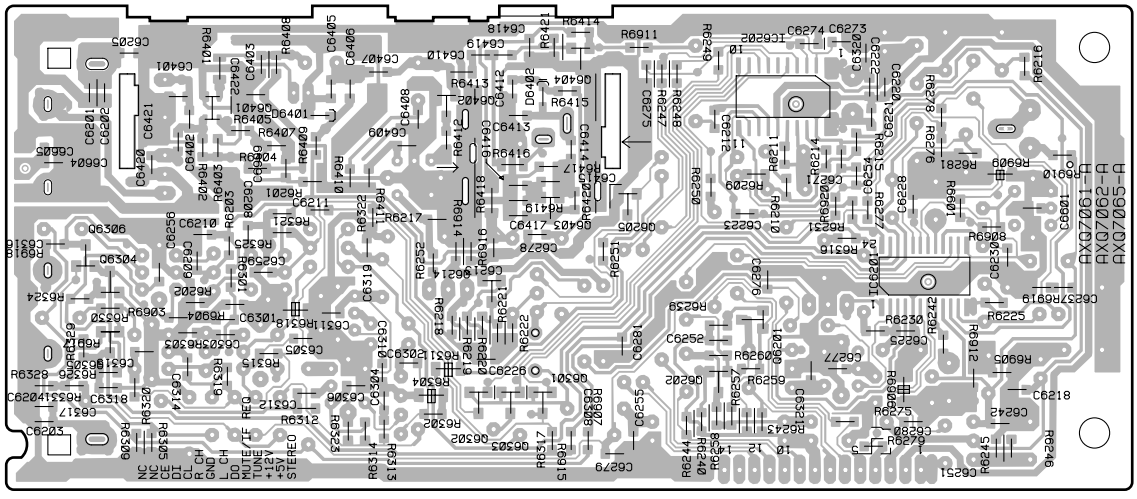
**I** CN5504

**F** FM/AM TUNER MODULE




**SIDE B**

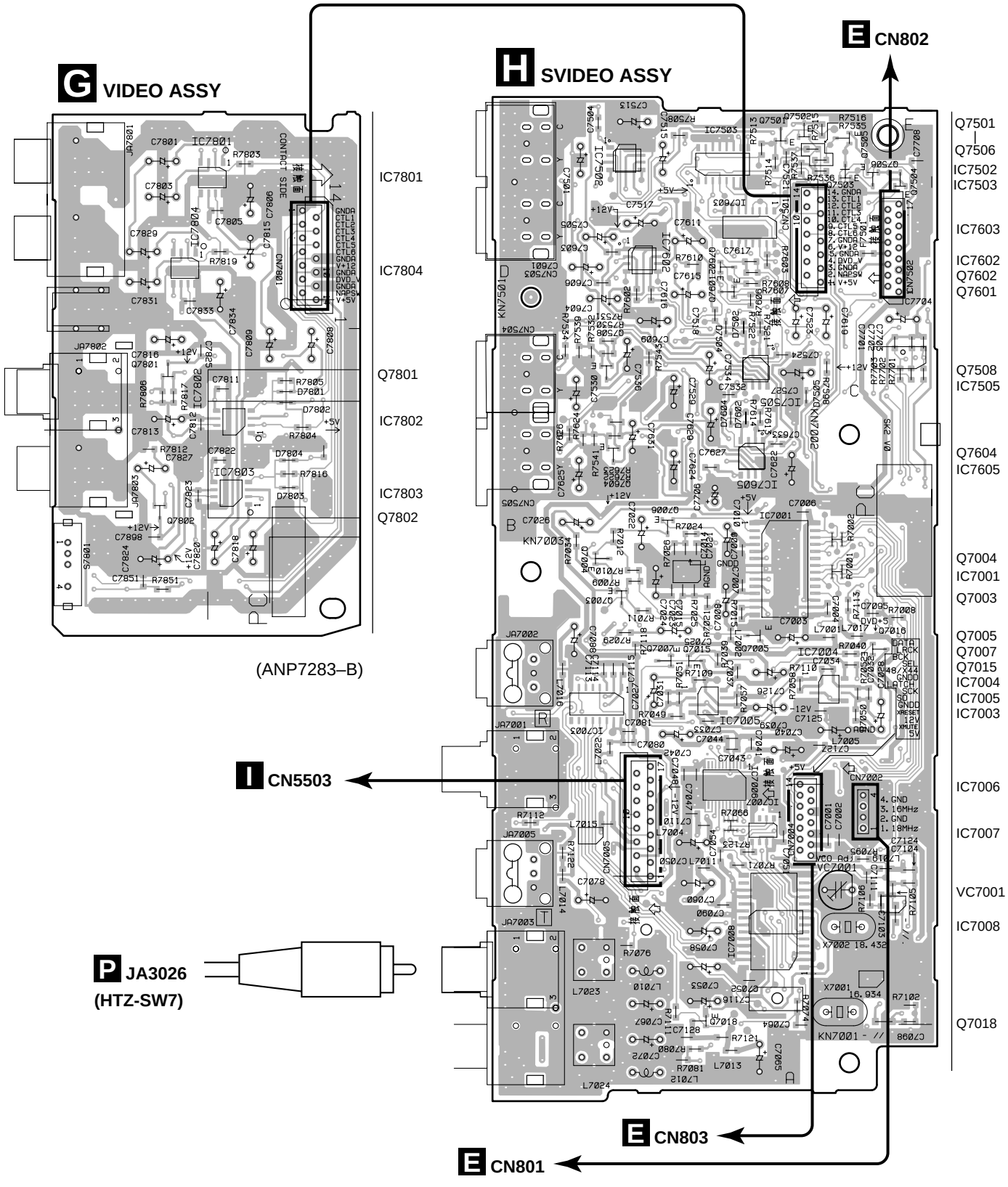
**F** FM/AM TUNER MODULE




(ANP7159-B)

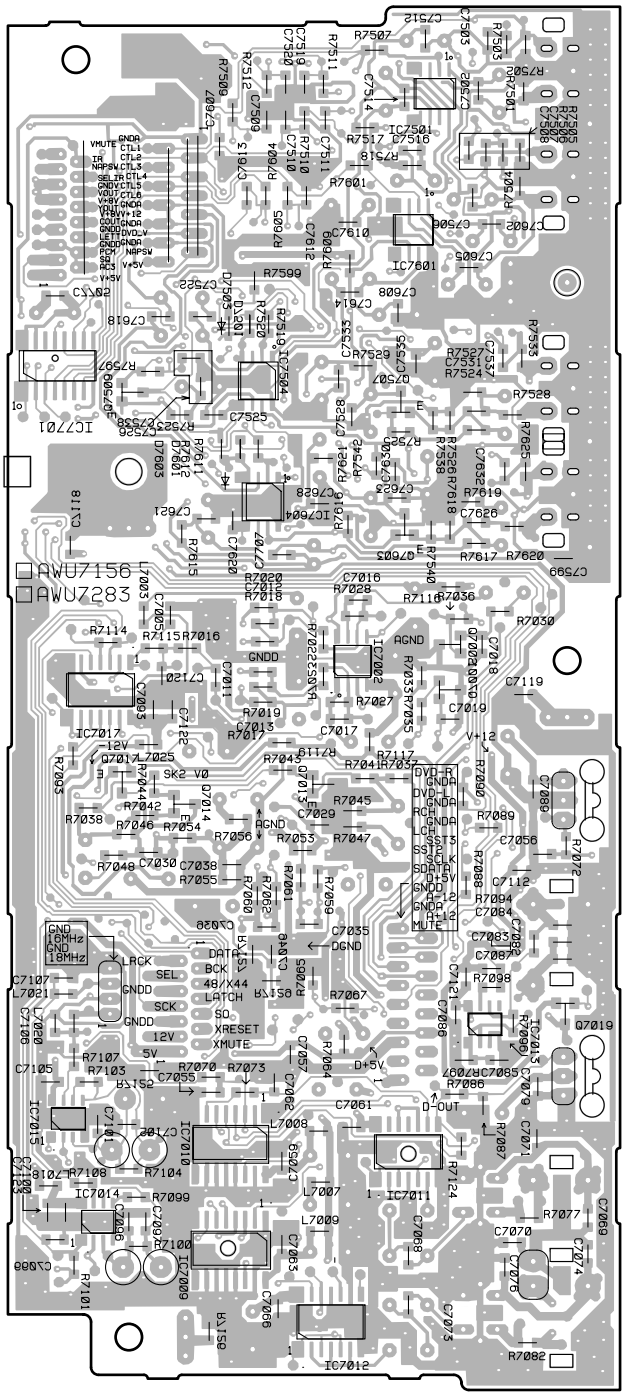
## 4.1.4 VIDEO ASSY and SVIDEO ASSY

**SIDE A**



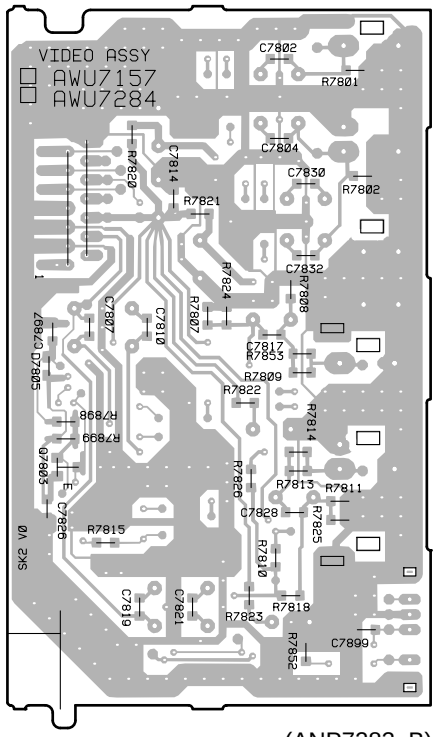
**SIDE B**

## H SVIDEO ASSY



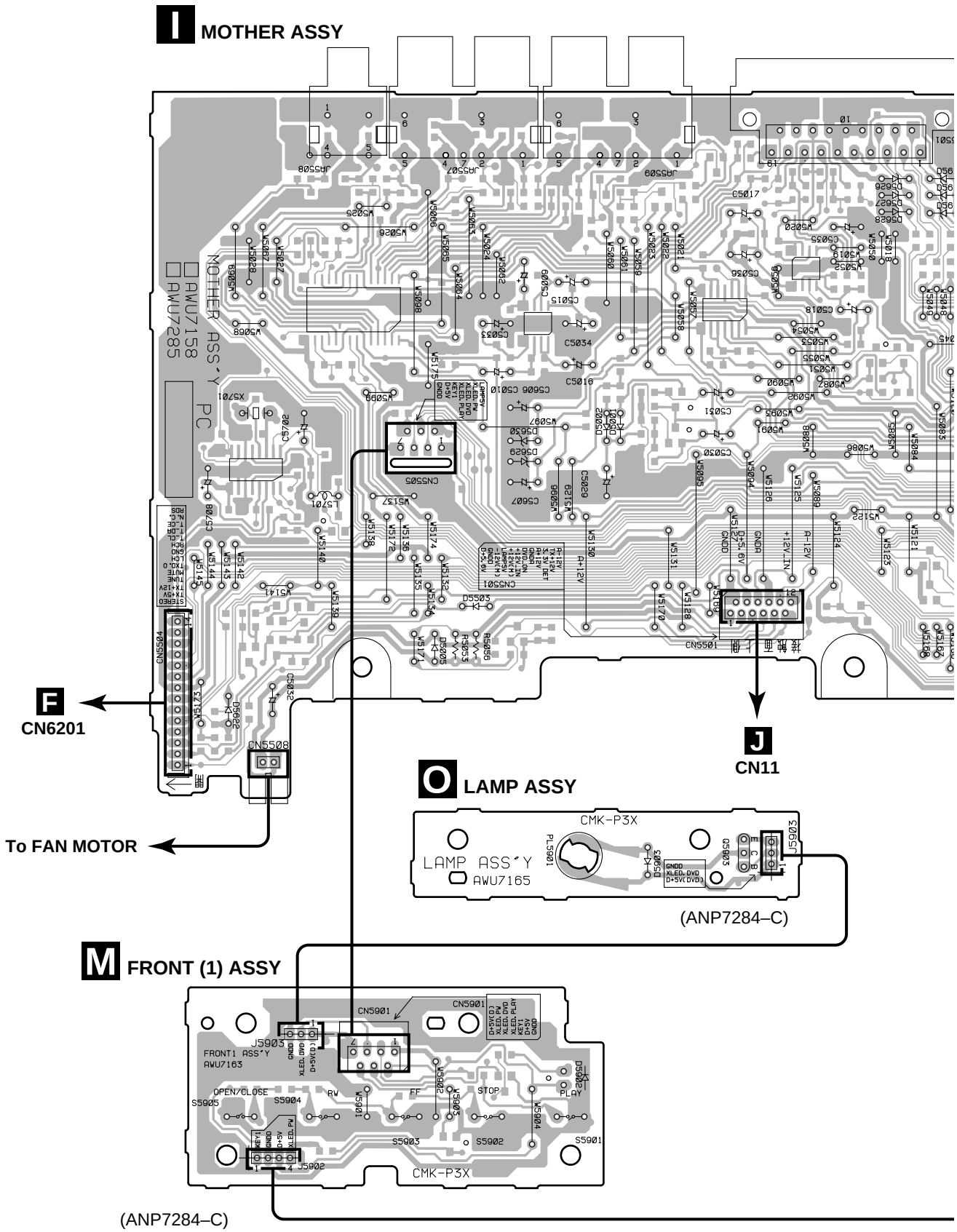

(ANP7283–B)

## G VIDEO ASSY



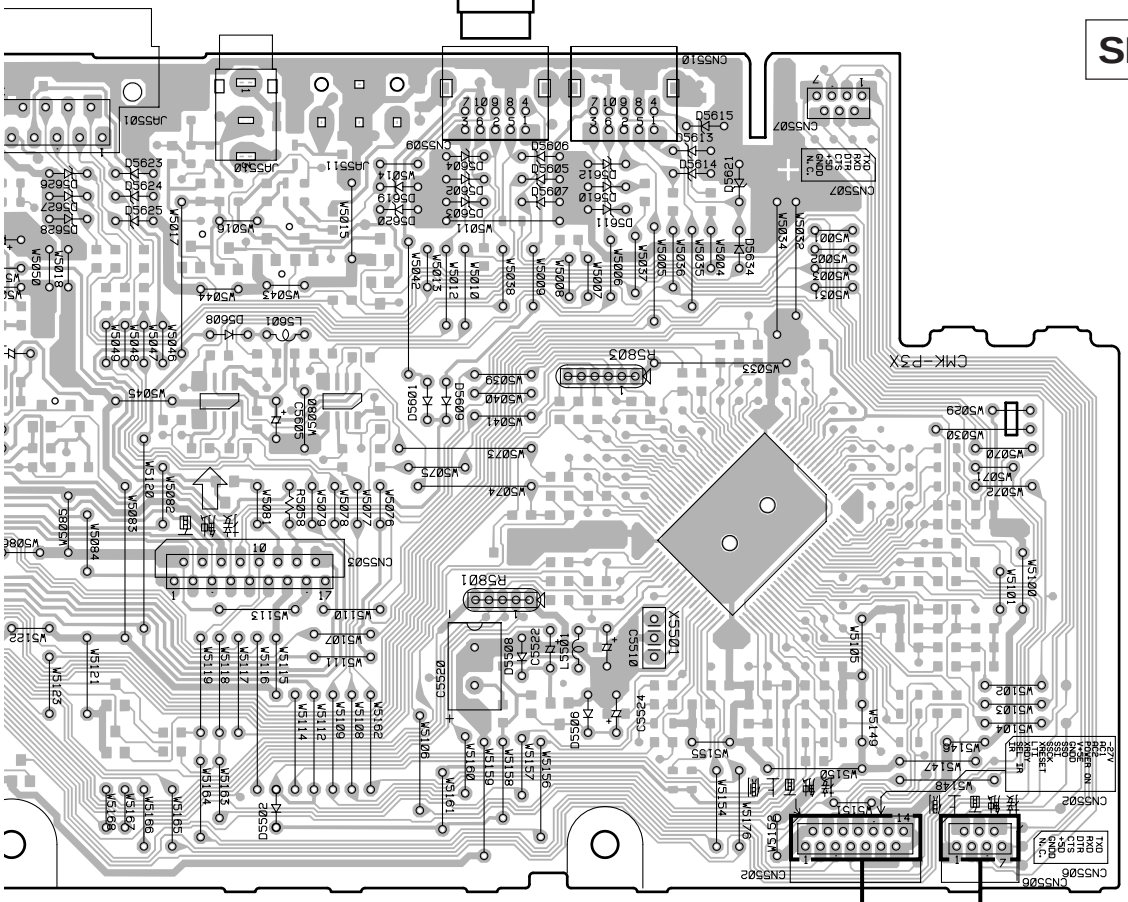

(ANP7283–B)

## 4.1.5 MOTHER ASSY, FRONT (1) ASSY, FRONT (2) ASSY and LAMP ASSY



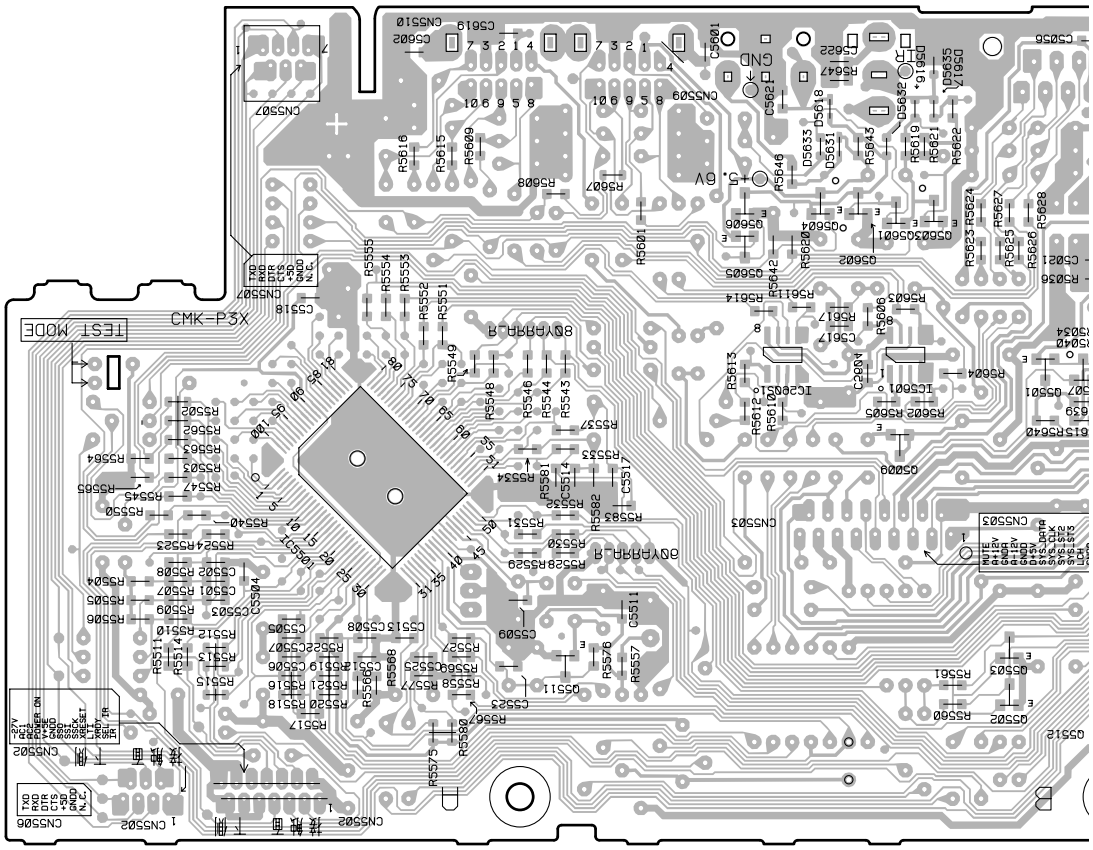
**P** CN3023
(HTZ-SW7)

**SIDE A**



**SIDE B**

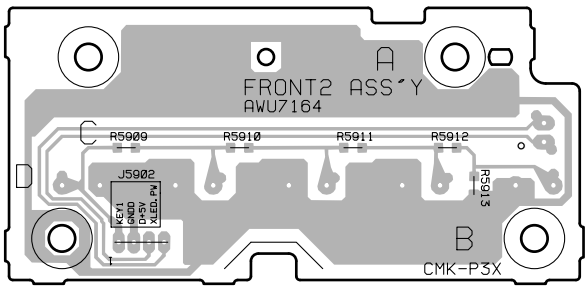
## I MOTHER ASSY




(ANP7284–C)

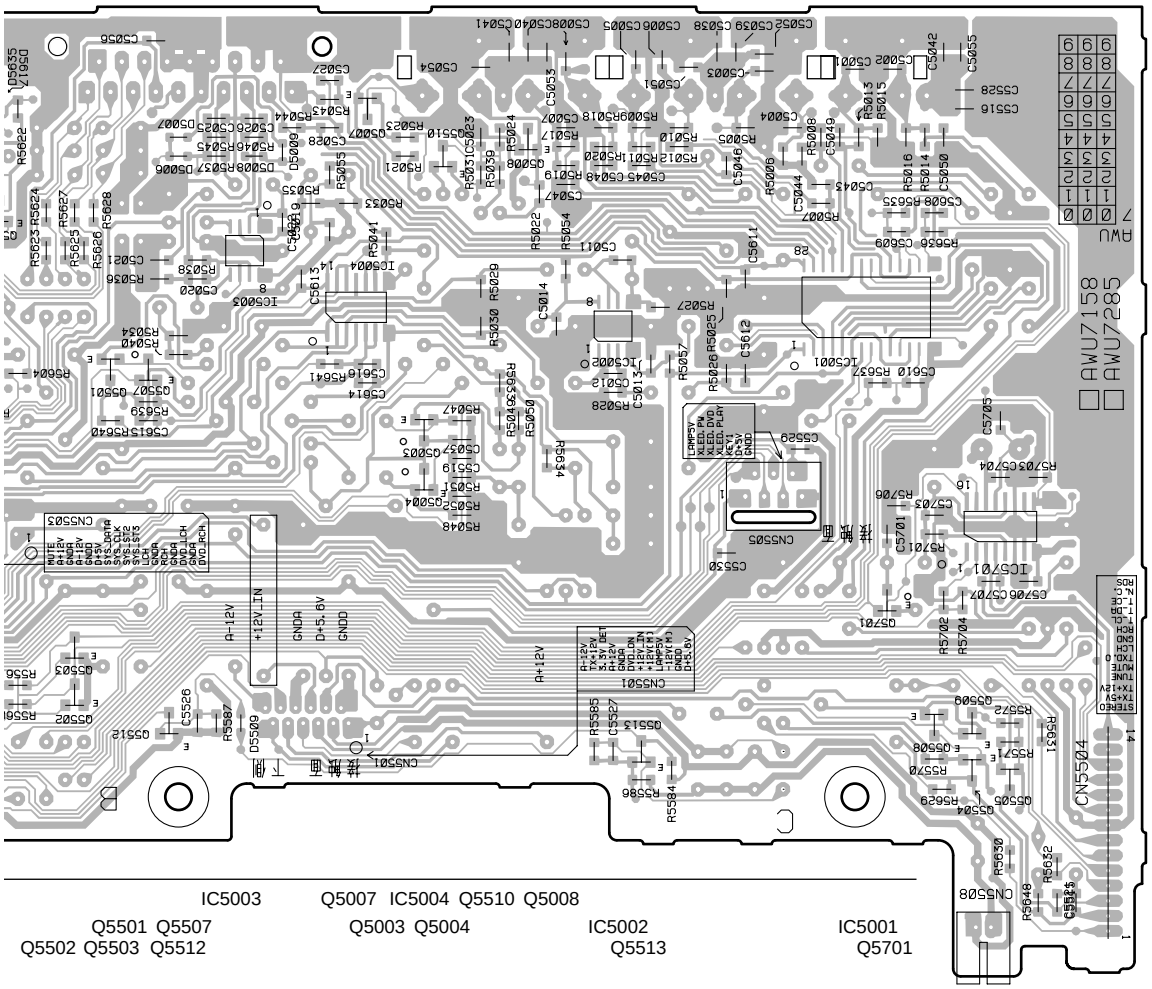
Q5601–Q5606
IC5501 Q5511 IC5602 IC5601 Q5501
Q5009 Q5502 Q5503

## N FRONT (2) ASSY

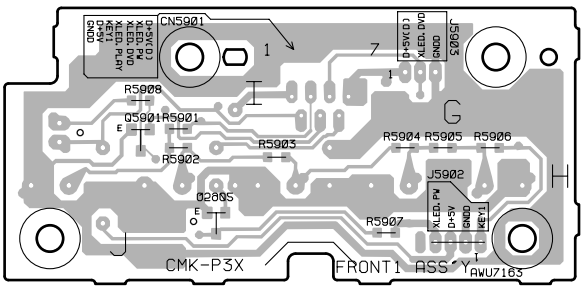



(ANP7284–C)

**SIDE B**



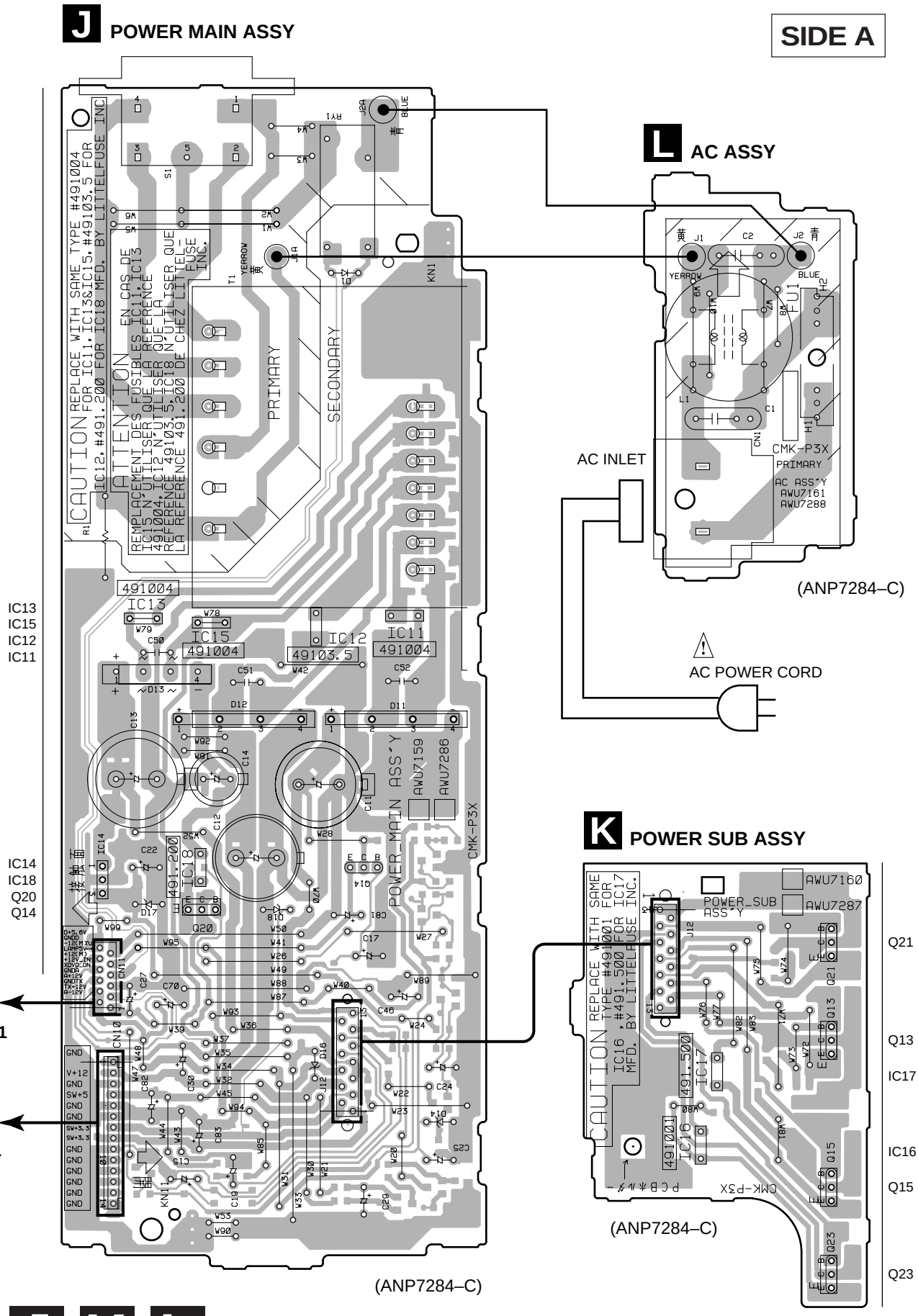

## M FRONT (1) ASSY




Q5901 Q5902

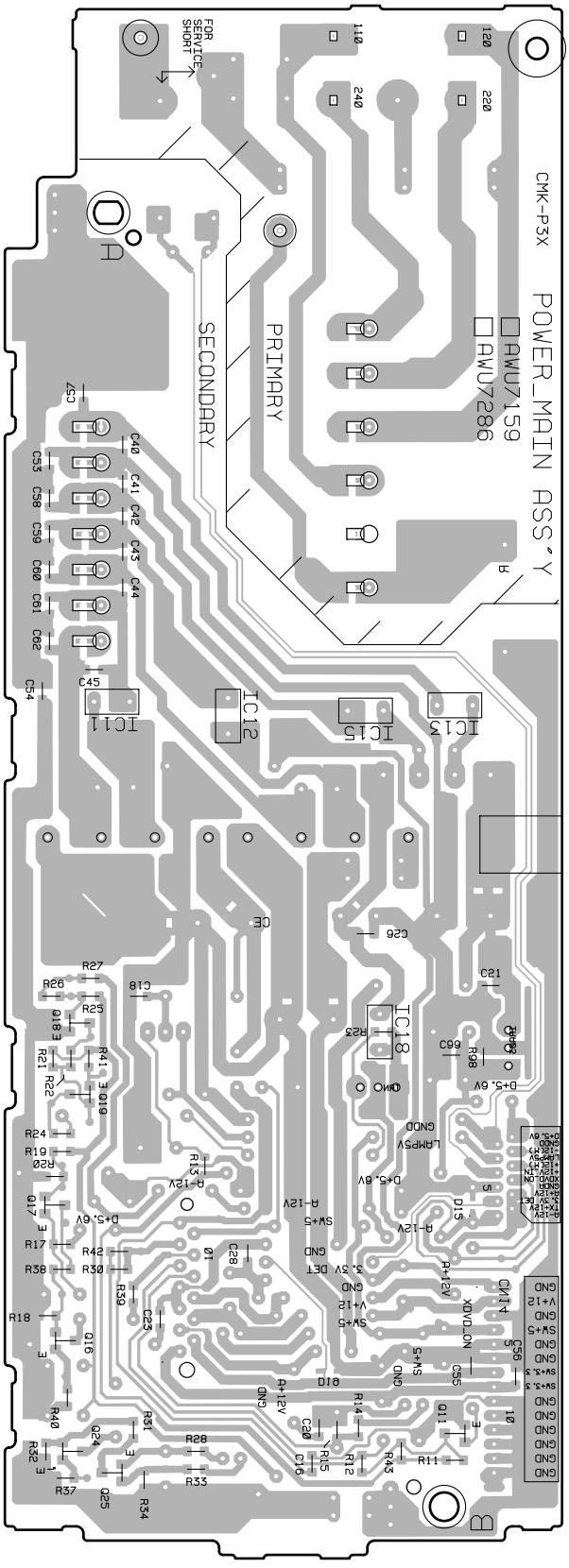
(ANP7284–C)

## 4.1.6 POWER MAIN ASSY, POWER SUB ASSY and AC ASSY



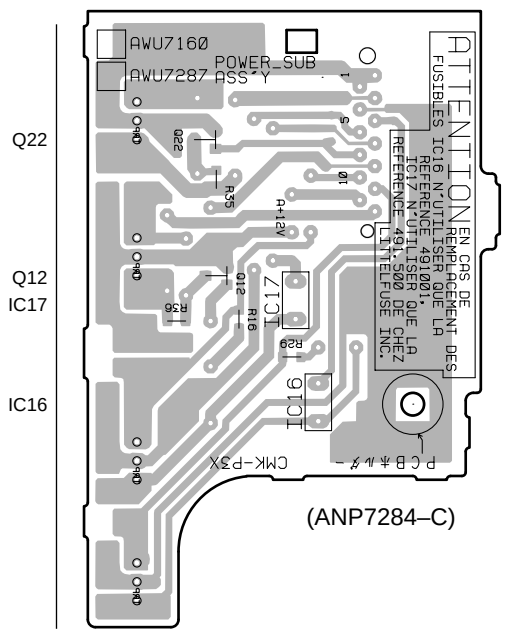
**SIDE B**

## J POWER MAIN ASSY




(ANP7284–C)

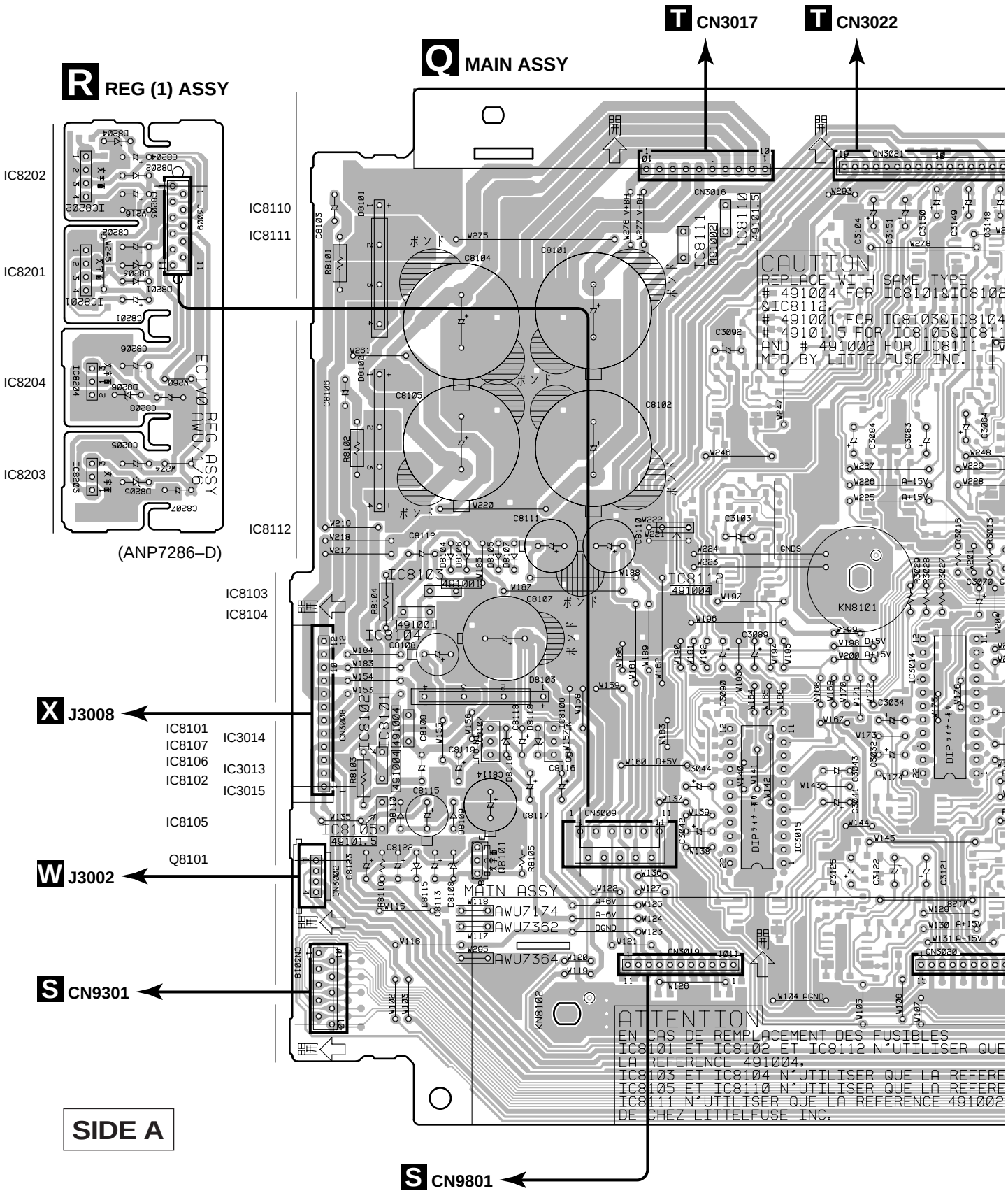
## K POWER SUB ASSY

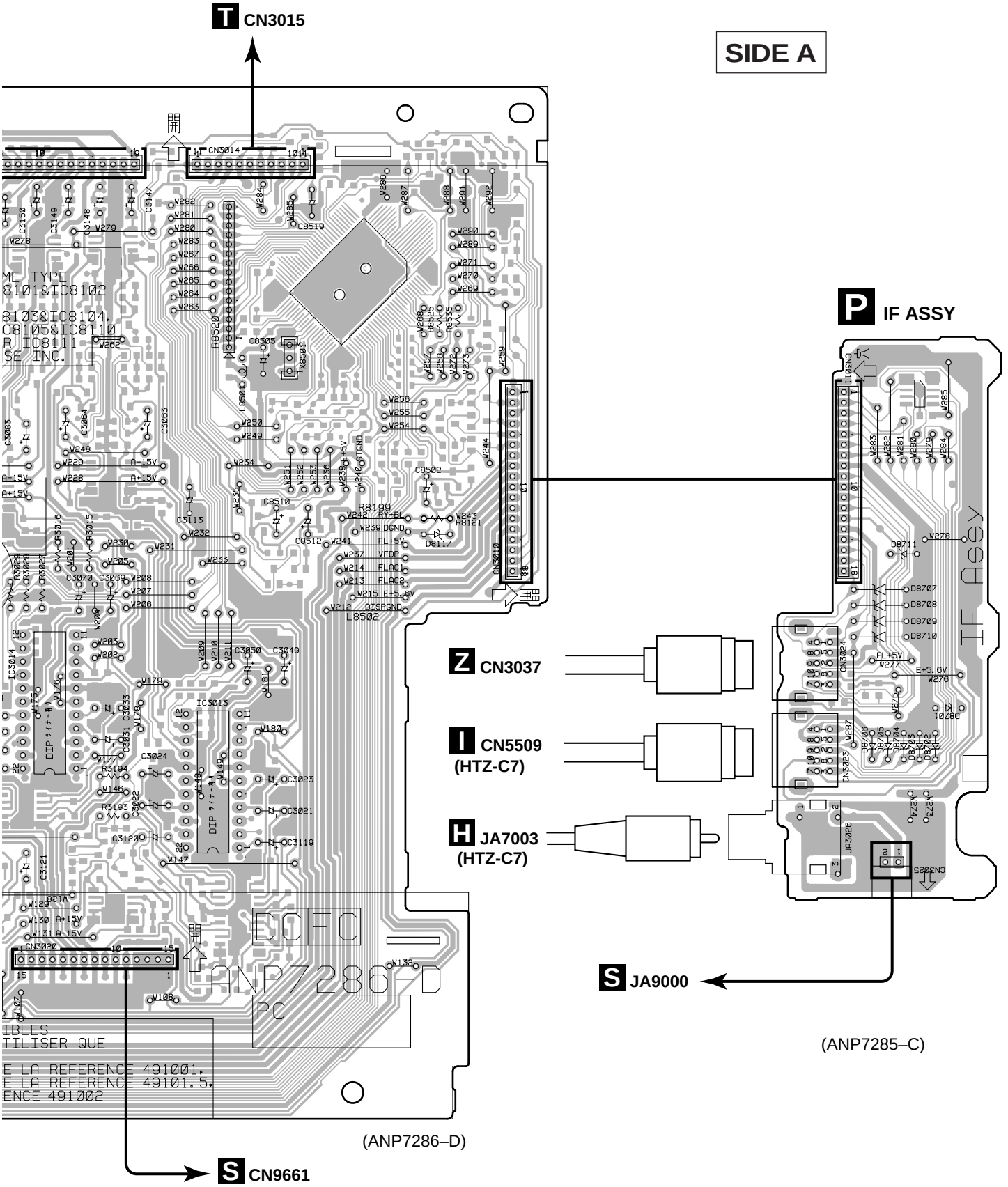



(ANP7284–C)

## 4.2 POWERED SUBWOOFER (HTZ-SW7)

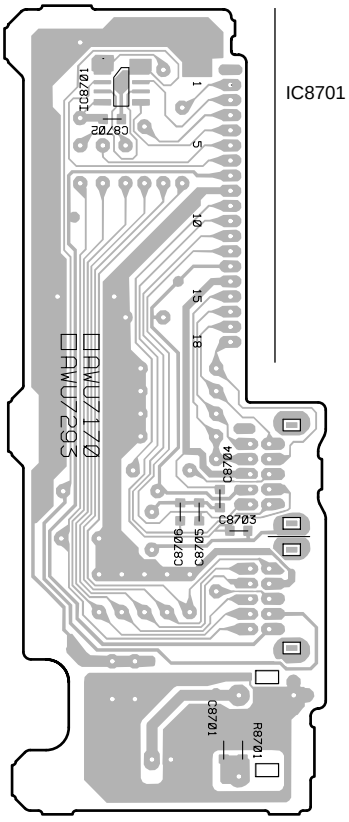
### 4.2.1 IF ASSY, MAIN ASSY and REG (1) ASSY




T CN3015
SIDE A
P IF ASSY
Z CN3037
I CN5509
(HTZ-C7)
H JA7003
(HTZ-C7)
S JA9000
(ANP7285–C)
(ANP7286–D)
S CN9661

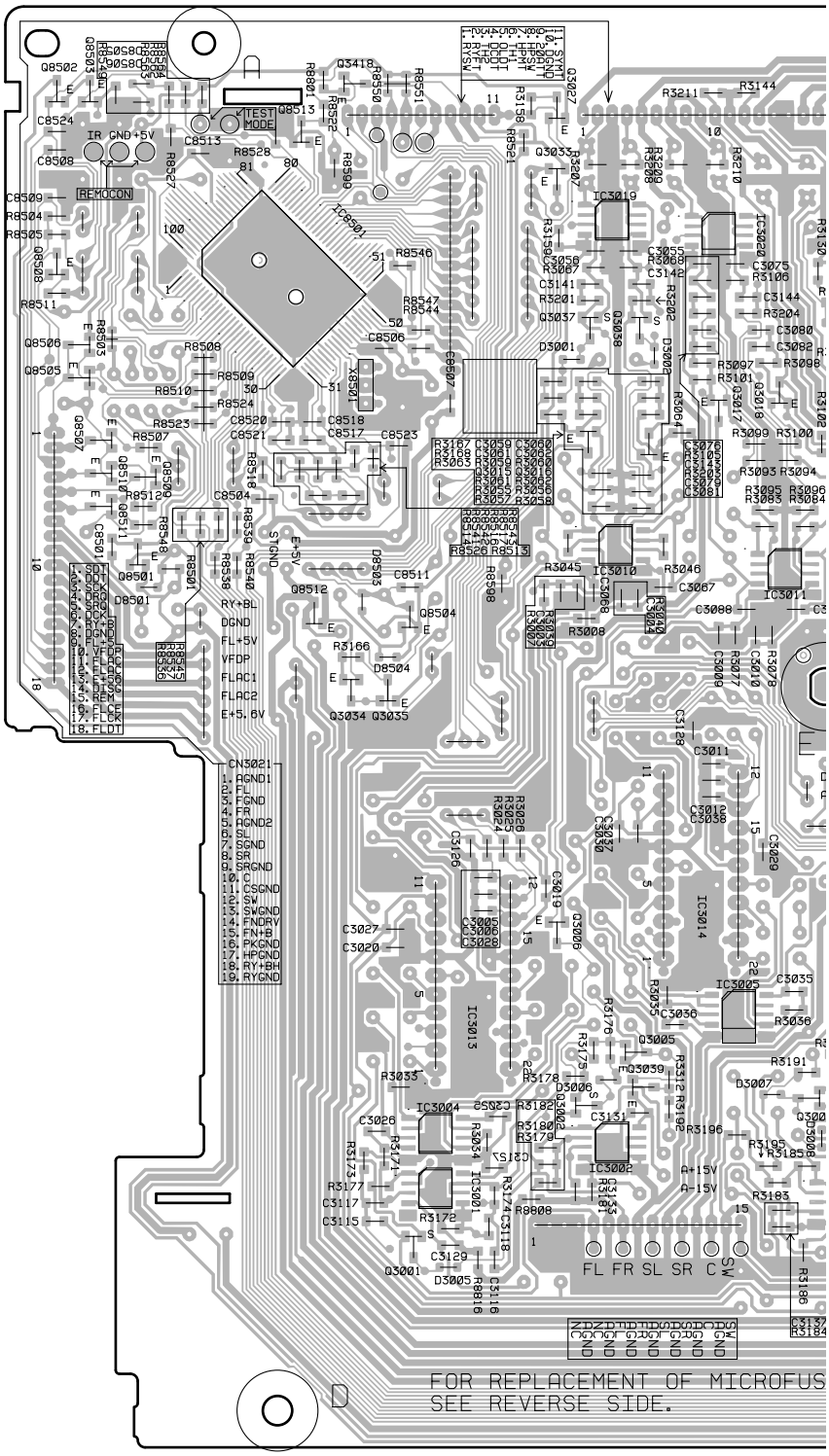
## SIDE B

## P IF ASSY

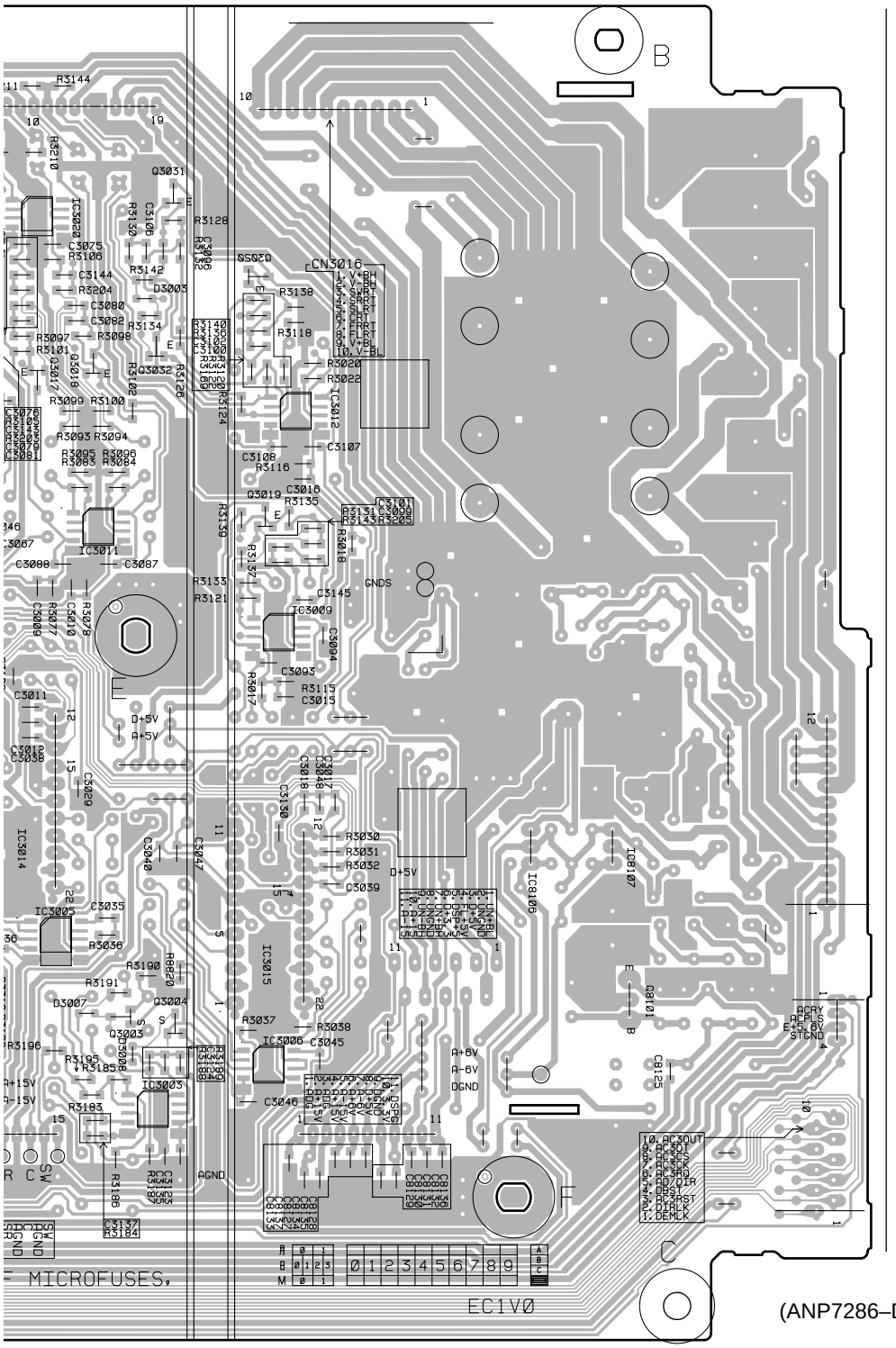



(ANP7285–C)

## Q MAIN ASSY

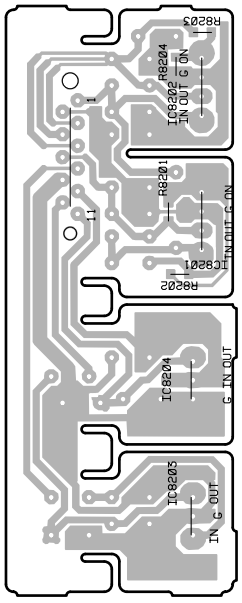


**SIDE B**




(ANP7286–D)

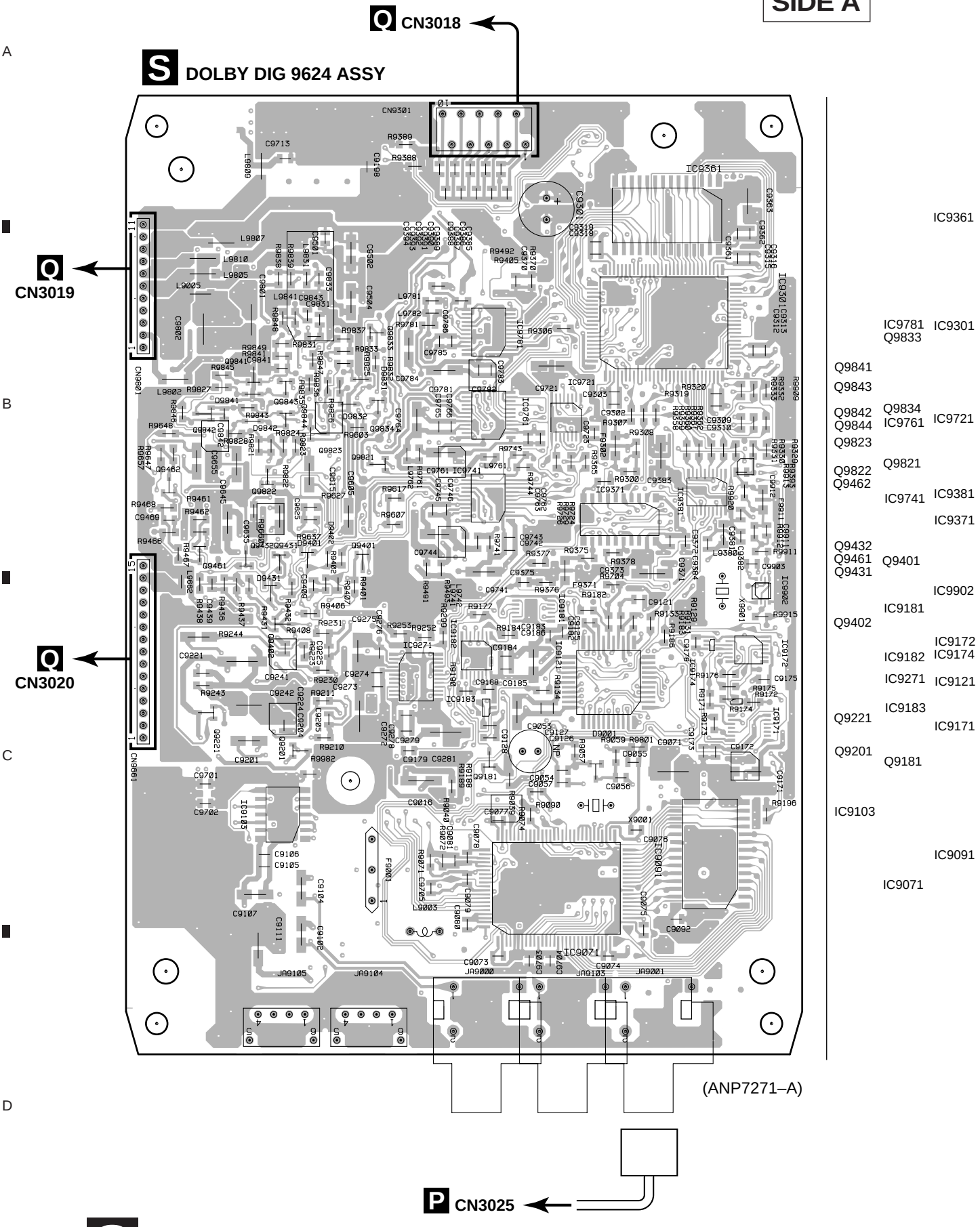
**R REG (1) ASSY**



(ANP7286–D)

## 4.2.2 DOLBY DIG 9624 ASSY

SIDE A



**SIDE B**

## S DOLBY DIG 9624 ASSY

Q9301

IC9501

Q9832
IC9471 Q9831

IC9601
Q9302 IC9641
Q9304
IC9193 IC9441

Q9651
IC9621
Q9901 Q9641
IC9411

Q9631
Q9601 Q9611
IC9901 Q9621

Q9741
Q9191
IC9173 IC9221

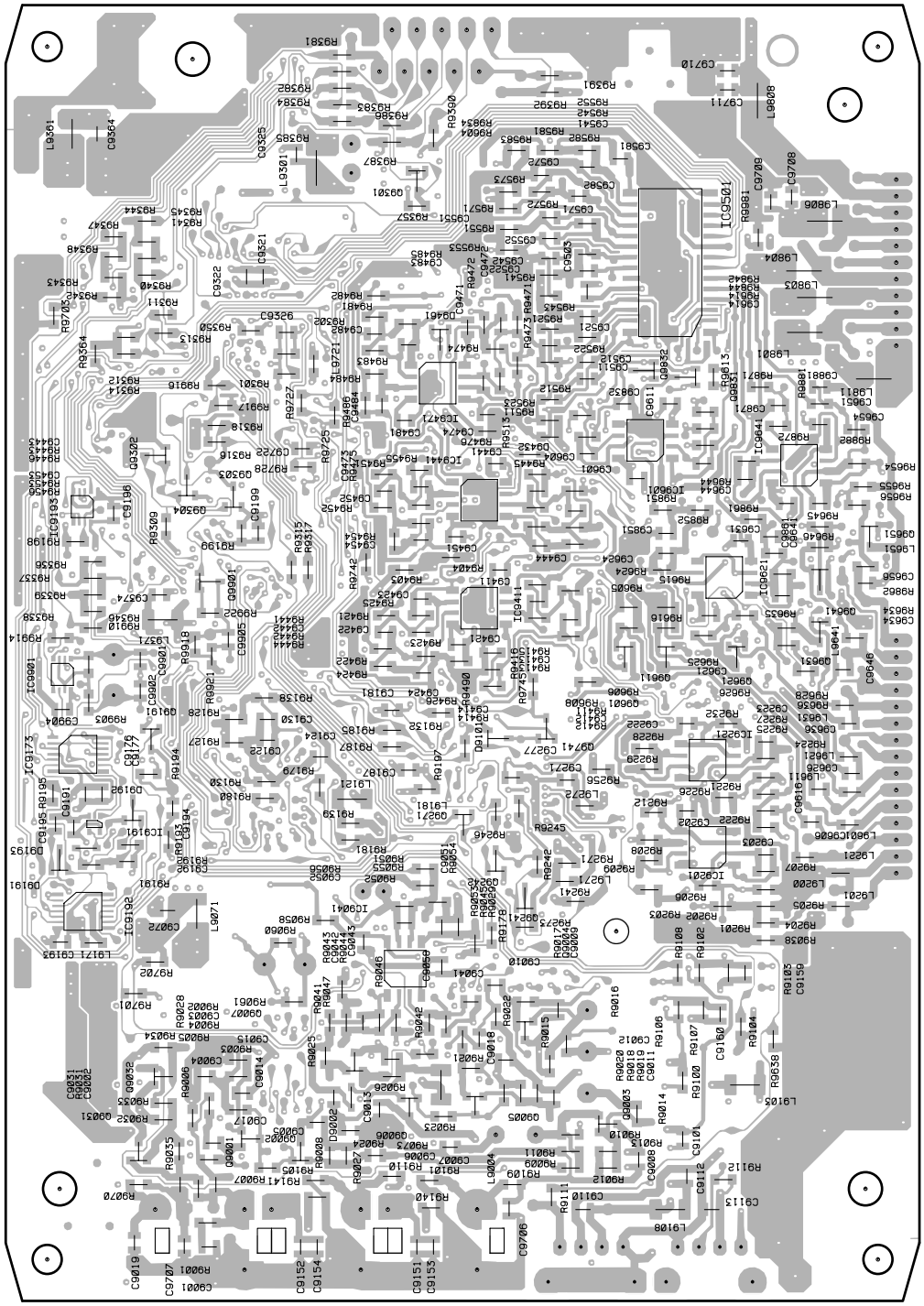
Q9271
IC9191
IC9201
Q9242

Q9241
IC9192

IC9401

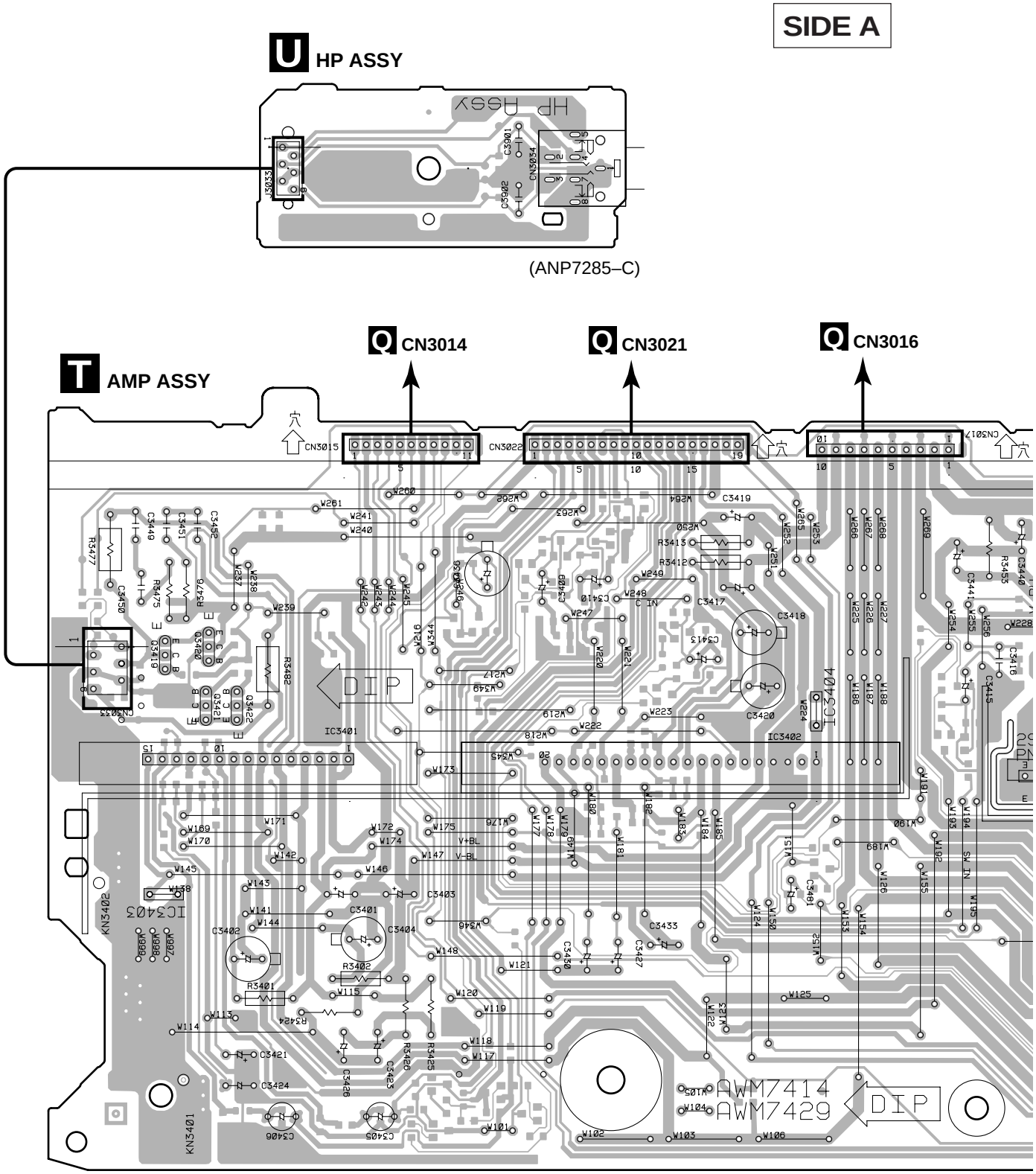
Q9004
Q9007
Q9032

Q9005
Q9006 Q9003
Q9001
Q9002
Q9031



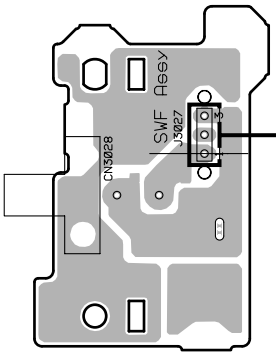
(ANP7271–A)

### 4.2.3 AMP ASSY, SWF ASSY and HP ASSY

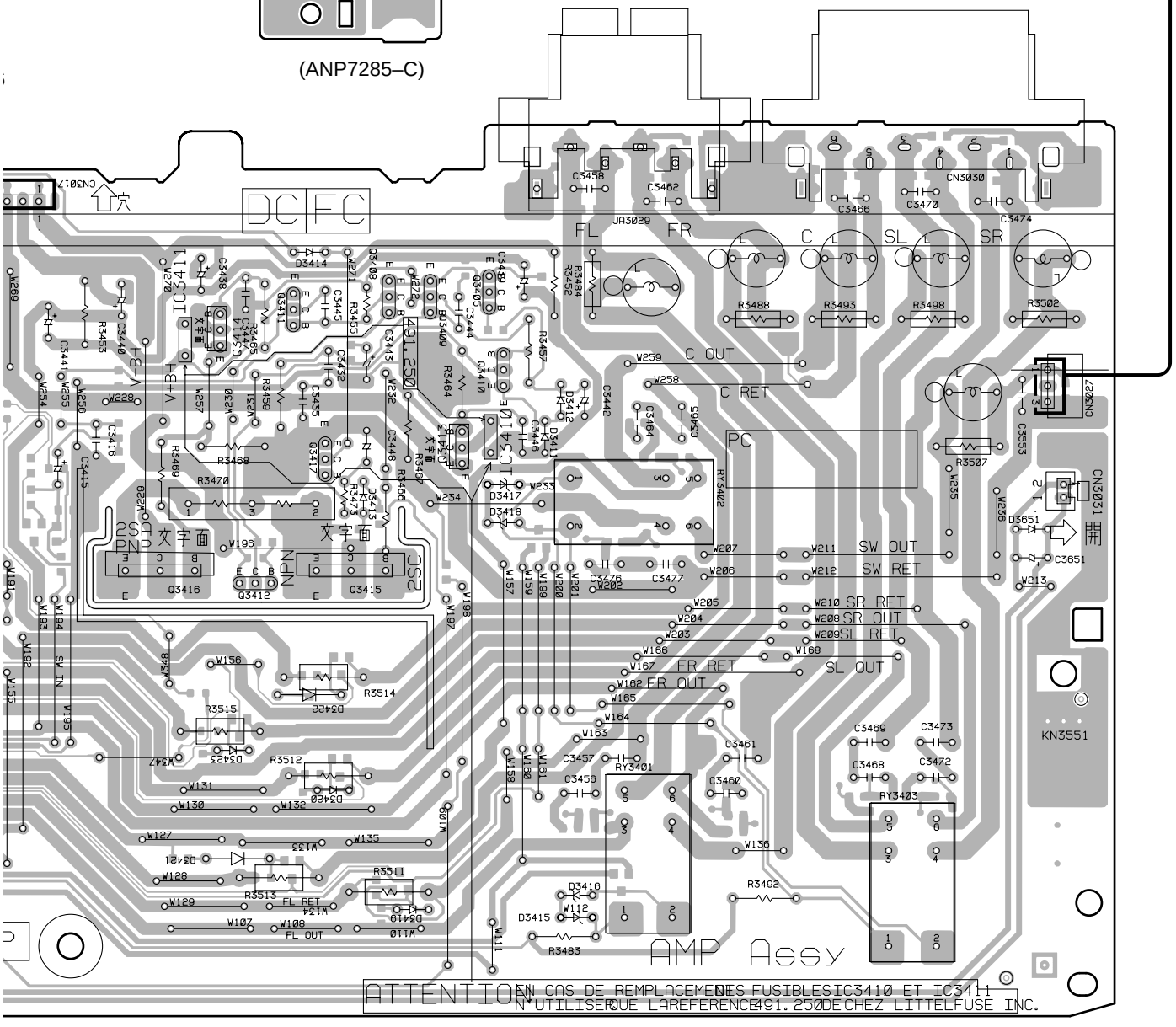


**V** SWF ASSY

SIDE A



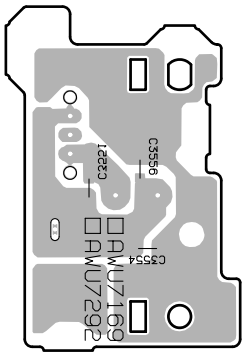

(ANP7285–C)




(ANP7285–C)

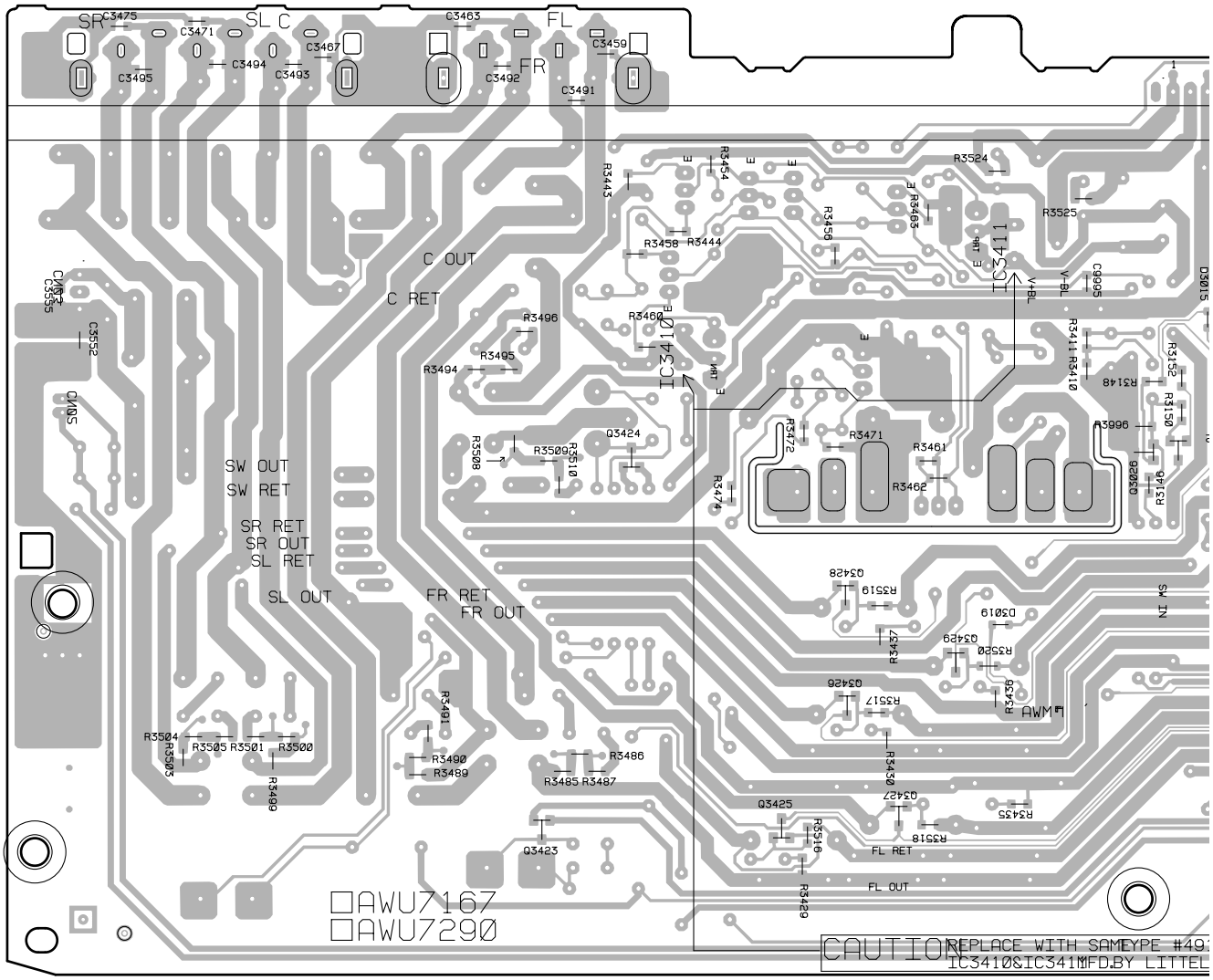
**SIDE B**

**V SWF ASSY**




(ANP7285–C)

**T AMP ASSY**

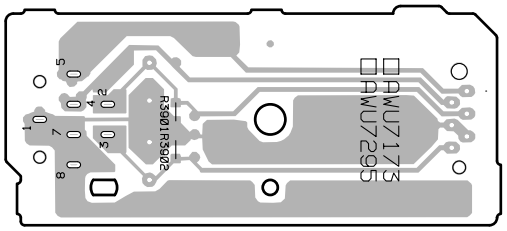



Q3424 Q3428 Q3026 Q3032

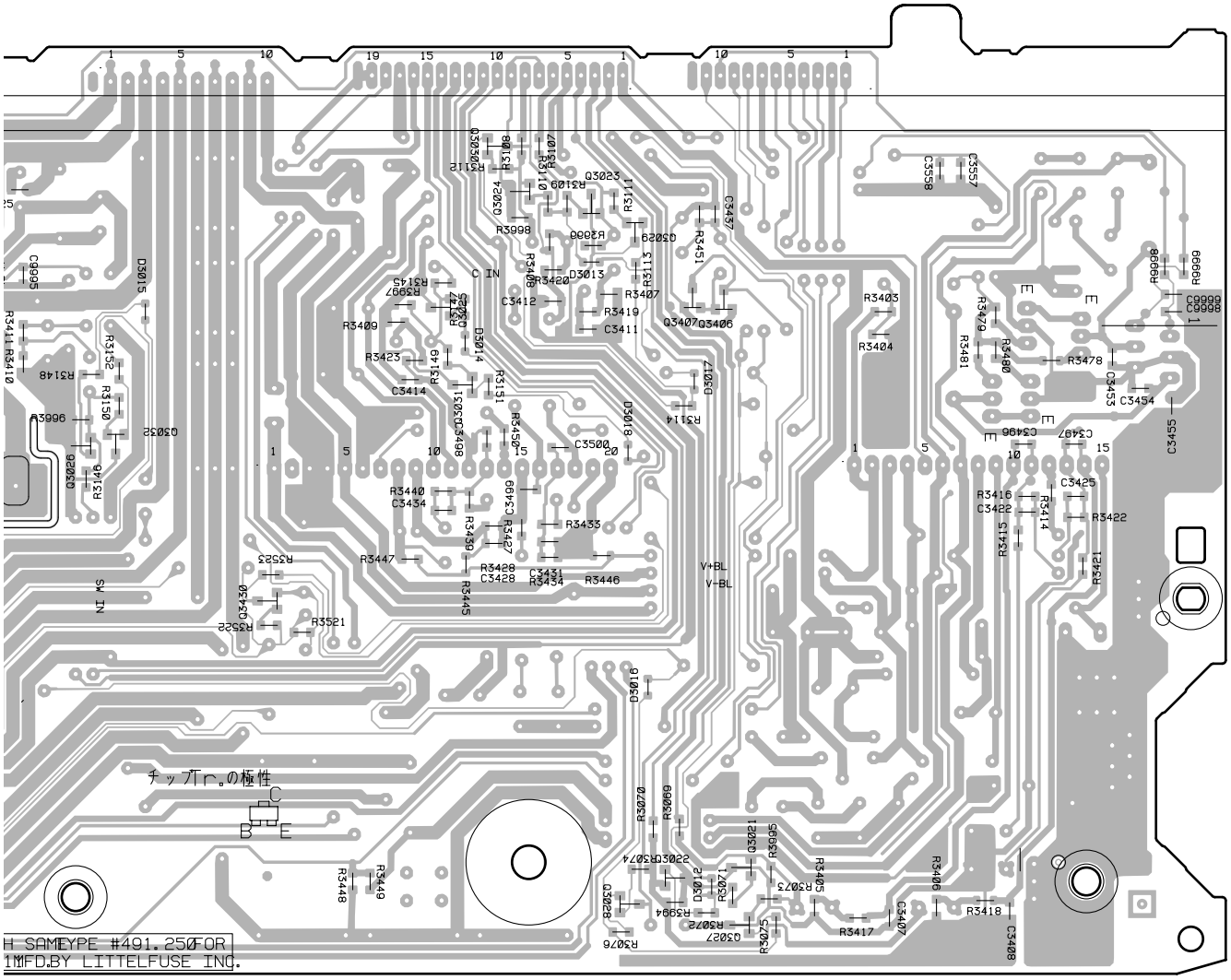
Q3423 Q3425 Q3426 Q3427 Q3429

**SIDE B**

## U HP ASSY




(ANP7285–C)



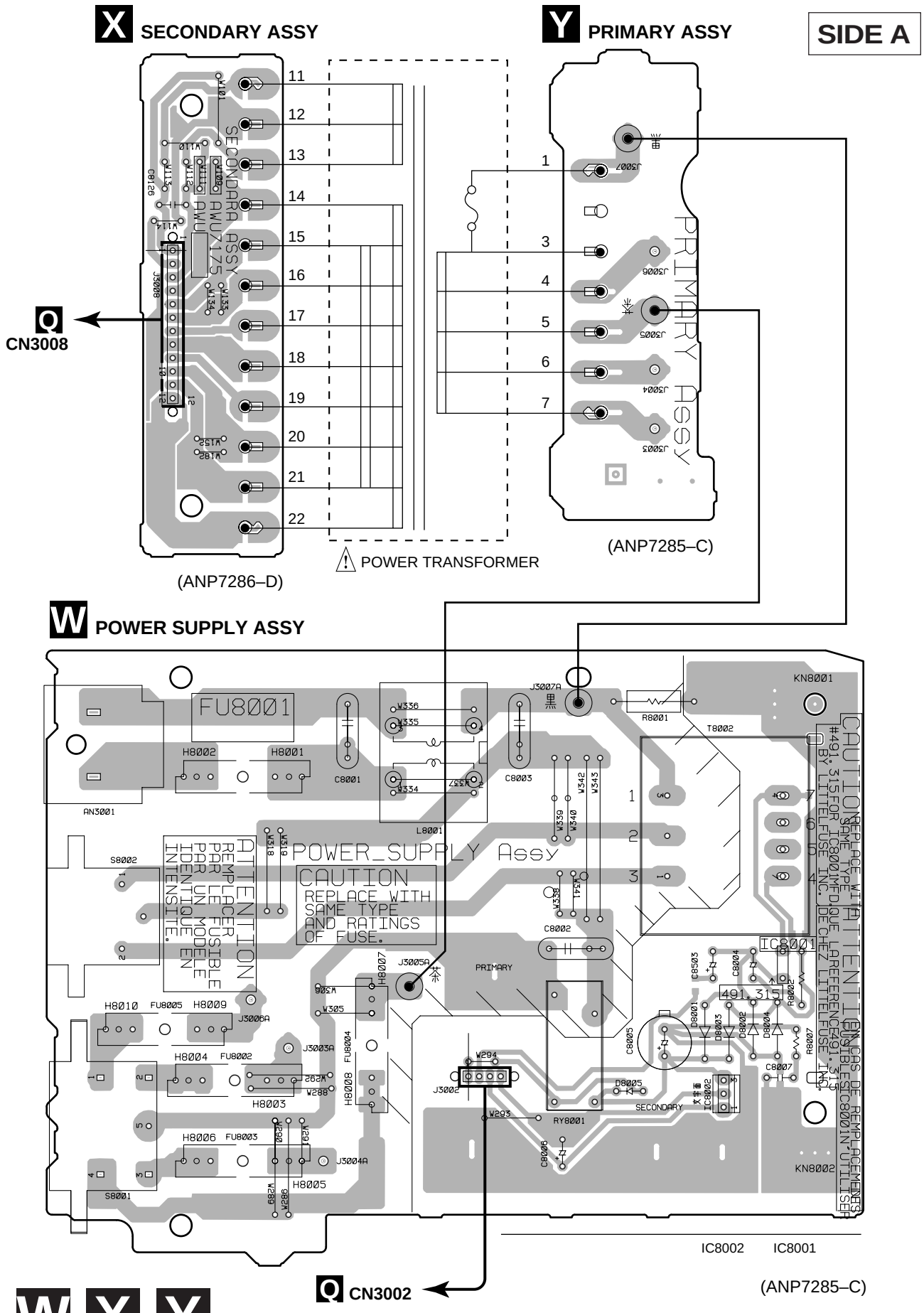

Q3030 Q3024 Q3023 Q3029

Q3026 Q3032 Q3025 Q3031 Q3407 Q3406

Q3430 Q3028 Q3022 Q3027 Q3021

(ANP7285–C)

## 4.2.4 POWER SUPPLY ASSY, SECONDARY ASSY and PRIMARY ASSY



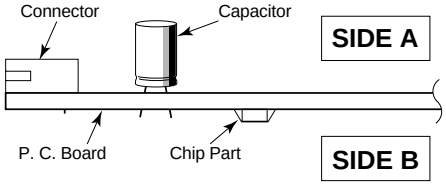
**NOTE FOR PCB DIAGRAMS:**

1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

| Symbol in PCB Diagrams | Symbol in Schematic Diagrams | Part Name |
|---|---|---|
| B C E | B C E B C E | Transistor |
| B C E | B C E B C E | Transistor with resistor |
| D G S | D G S D G S | Field effect transistor |

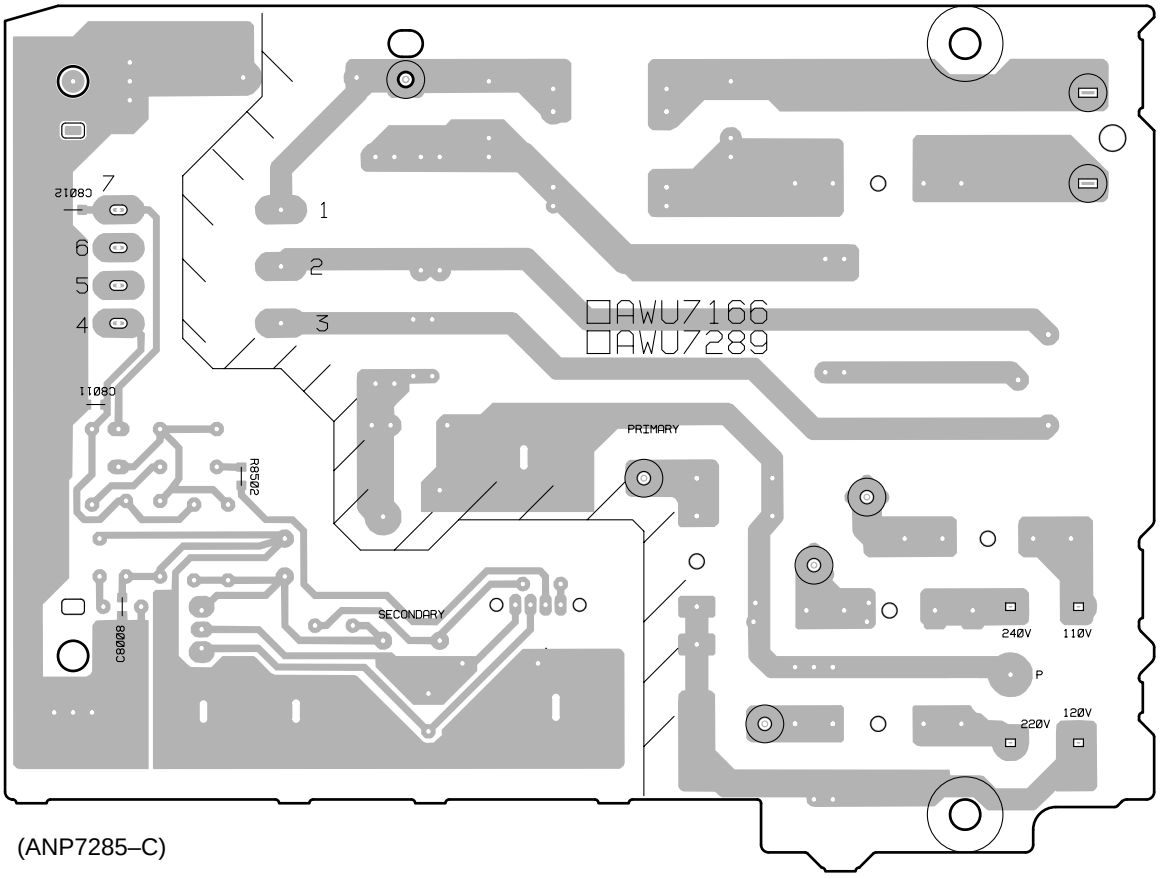
| Symbol in PCB Diagrams | Symbol in Schematic Diagrams | Part Name |
|---|---|---|
| | | Resistor array |
| | | 3-terminal regulator |

3. The parts mounted on this PCB include all necessary parts for several destination.
   For further information for respective destinations, be sure to check with the schematic diagram.
4. Viewpoint of PCB diagrams




## W POWER SUPPLY ASSY

**SIDE B**

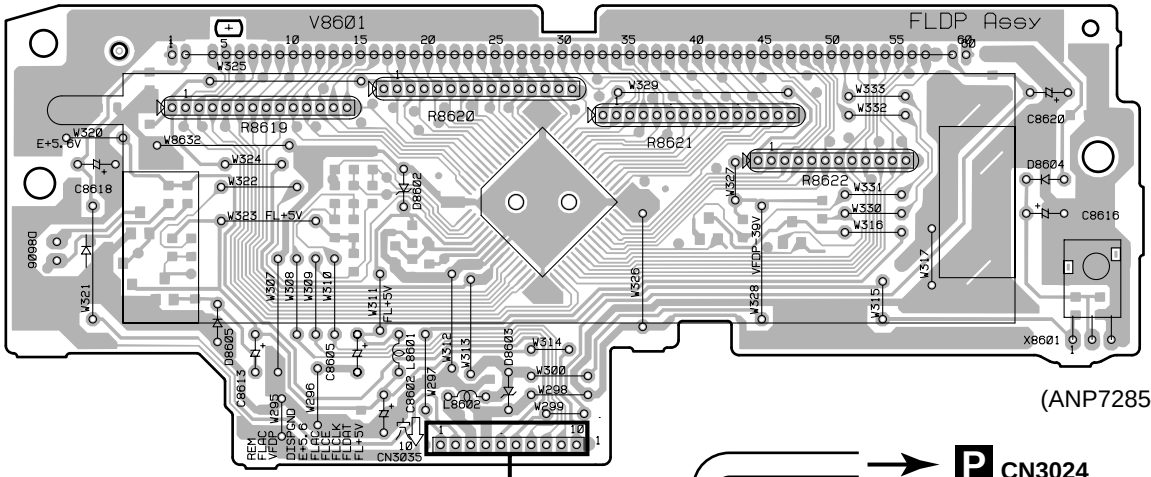



(ANP7285–C)

## 4.2.5 CNB ASSY and FLDP ASSY (DISPLAY UNIT)

**SIDE A**

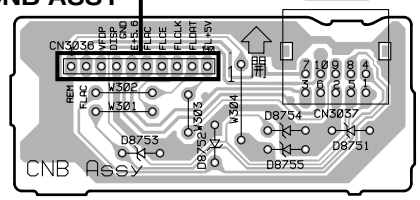
**AA** **FLDP ASSY**




(ANP7285–C)

**P** **CN3024**

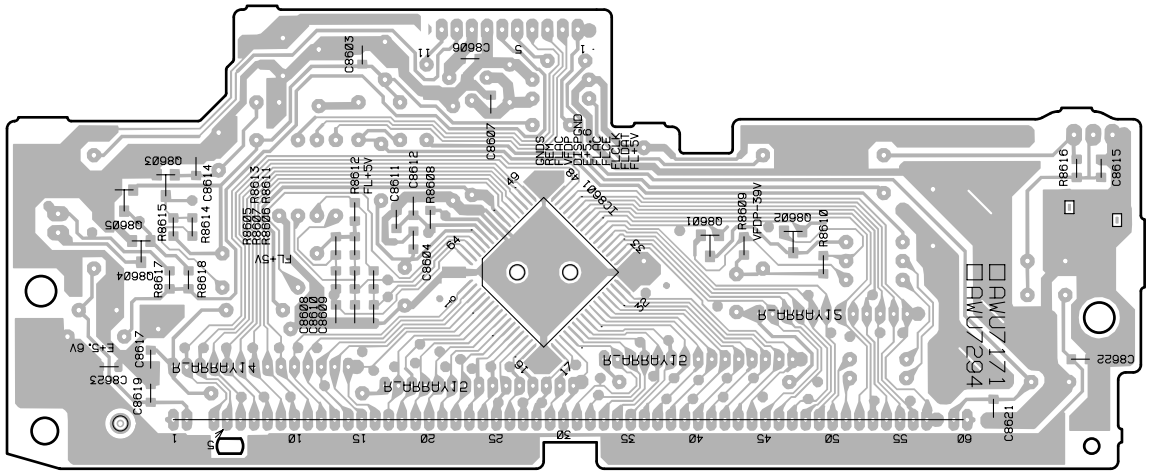
**Z** **CNB ASSY**




(ANP7285–C)

**SIDE B**

**AA** **FLDP ASSY**




Q8605 Q8604 Q8603 IC8601 Q8601 Q8602

(ANP7285–C)

# 5. PCB PARTS LIST

*NOTES :*
- *Parts marked by "* NSP *" are generally unavailable because they are not in our Master Spare Parts List.*
- *The ⚠ mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
- *When ordering resistors, first convert resistance values into code form as shown in the following examples.*

*Ex. 1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J = 5%, and K = 10%).*

*560 Ω → 56 × 10 [1] → 561 ..... RD1/4PU 5 6 1 J*
*47k Ω → 47 × 10 [3] → 473 ..... RD1/4PU 4 7 3 J*
*0.5 Ω → R50 ..... RN2H R 5 0 K*
*1 Ω → 1R0 ..... RS1P 1 R 0 K*

*Ex. 2 When there are 3 effective digits (such as in high precision metal film resistors).*

*5.62k Ω → 562 × 10 [1] → 5621 ..... RN1/4PC 5 6 2 1 F*

| Mark | No. | Description | Part No. |
|---|---|---|---|

## 5.1 DVD CENTER UNIT (HTZ-C7)

### LIST OF PCB ASSEMBLIES

| | | |
|---|---|---|
| NSP | CVDB ASSY | AWM7427 |
| | ├ SVIDEO ASSY | AWU7283 |
| | └ VIDEO ASSY | AWU7284 |
| NSP | CPCB ASSY | AWM7428 |
| | ├ FRONT (1) ASSY | AWU7163 |
| | ├ FRONT (2) ASSY | AWU7164 |
| | ├ LAMP ASSY | AWU7165 |
| | ├ MOTHER ASSY | AWU7285 |
| | ├ POWER MAIN ASSY | AWU7286 |
| | ├ POWER SUB ASSY | AWU7287 |
| | └ AC ASSY | AWU7288 |
| | FM/AM TUNER MODULE | AXQ7065 |
| | DVDM ASSY | VWS1364 |
| NSP | LOADING MECHANISM ASSY | VWT1147 |
| NSP | ├ LOAB ASSY | VWM1798 |
| NSP | ├ LOSB ASSY | VWG1885 |
| NSP | └ LOMB ASSY | VWG1886 |
| NSP | └ SERVO MECHANISM ASSY | VWT1148 |
| NSP | └ SMEB ASSY | VWM1797 |
| NSP | ├ INSB ASSY | VWG1883 |
| NSP | └ FGSB ASSY | VWG1884 |

### H SVIDEO ASSY

#### SEMICONDUCTORS

| | |
|---|---|
| IC7006 | AK5351–VF |
| IC7002, IC7004, IC7005 | BA4558F–HT |
| IC7503 | BU4053BCF |
| IC7003, IC7701 | BU4094BCF |
| IC7501, IC7502 | MM1112XF |
| IC7505 | NJM2534M |
| IC7504 | NJM2535M |
| IC7001 | PD2026BM (L) |
| IC7017 | TC74HC02AF |
| IC7010 | TC74HC153AF |
| IC7011 | TC74HCU04AF |
| IC7007 | TC7W74F |
| IC7013–IC7015 | TC7WU04F |
| IC7008 | TC9271F |
| Q7003, Q7004, Q7501, Q7509 | 2SA1037K |
| Q7502, Q7507, Q7508 | 2SC2412K |
| Q7001, Q7002, Q7013–Q7016 | 2SD2114K |
| Q7007, Q7017 | DTA124EK |
| Q7019, Q7505, Q7506 | DTA143EK |
| Q7005, Q7006 | DTC124EK |
| Q7503, Q7504 | DTC143EK |
| D7501–D7505 | 1SS355 |

#### COILS AND FILTERS

| | |
|---|---|
| F7001, F7002 | ATF7013 |
| F7501 | DTF1069 |
| L7001–L7005, L7007, L7008, L7011 (100 MHz) | OTL1040 |
| L7014–L7019, L7022 (100 MHz) | OTL1040 |
| L7023 | PTL1003 |
| L7010 | RTF1167 |
| L7020, L7021 | VTL1098 |

#### CAPACITORS

| | |
|---|---|
| C7012, C7013, C7085 | CCSQCH101J50 |
| C7031, C7032 | CCSQCH220J50 |
| C7047, C7509–C7511 | CCSQCH221J50 |
| C7102 | CCSQCH270J50 |
| C7044 | CCSQCH271J50 |
| C7014–C7017, C7099, C7106, C7107 | CCSQCH470J50 |
| C7098, C7103 | CCSQCH560J50 |
| C7104 | CCSQCH6R0D50 |
| C7096, C7097, C7101 | CCSQCH7R0D50 |
| C7027, C7028, C7515, C7523 | CEAT100M50 |
| C7008, C7010, C7040, C7042, C7053 | CEAT101M10 |
| C7058, C7060, C7067, C7078, C7088 | CEAT101M10 |
| C7039 | CEAT221M6R3 |
| C7022, C7024–C7026, C7126, C7127 | CEAT330M16 |
| C7513, C7517, C7527, C7534 | CEAT330M16 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | C7501, C7505 | | CEAT470M16 |
| | C7003, C7050, C7530 | | CEAT471M6R3 |
| | C7704 | | CEJA4R7M35 |
| | C7129, C7708 | | CKSQYB102K50 |
| | C7061 | | CKSQYB103K50 |
| | C7035, C7036 | | CKSQYB152K50 |
| | C7018, C7019 | | CKSQYB332K50 |
| | C7001, C7005, C7011, C7021, C7023 | | CKSQYF103Z50 |
| | C7029, C7030, C7033, C7034 | | CKSQYF103Z50 |
| | C7037, C7038, C7041, C7043, C7046 | | CKSQYF103Z50 |
| | C7051, C7052, C7057, C7059, C7068 | | CKSQYF103Z50 |
| | C7079, C7080, C7082, C7086 | | CKSQYF103Z50 |
| | C7089, C7090, C7093, C7095, C7105 | | CKSQYF103Z50 |
| | C7110–C7112, C7118, C7119, C7125 | | CKSQYF103Z50 |
| | C7512, C7516, C7518–C7521 | | CKSQYF103Z50 |
| | C7524–C7526, C7528, C7532, C7533 | | CKSQYF103Z50 |
| | C7535, C7537 | | CKSQYF103Z50 |
| | C7004, C7006, C7007, C7009, C7048 | | CKSQYF104Z25 |
| | C7100, C7503, C7504, C7507, C7508 | | CKSQYF104Z25 |
| | C7002, C7081, C7121–C7124 | | CKSQYF105Z16 |
| | C7071, C7705 | | CKSQYF473Z50 |
| | C7538 | | CKSQYF474Z16 |
| | VC7001 (20 pF) | | VCM–008 |
| **RESISTORS** | | | |
| | R7066 (330 Ω) | | ACN7054 |
| | R7001, R7002 (220 Ω) | | DCN1093 |
| | R7057, R7058, R7109, R7110 | | RN1/10SE1002D |
| | R7025–R7028 | | RN1/10SE4702D |
| | Other Resistors | | RS1/10S□□□J |
| **OTHERS** | | | |
| | CN7501 | 14P FFC CONNECTOR | 9604S–14C |
| | CN7005 | 17P FFC CONNECTOR | 9604S–17C |
| | 7001, 7003 | PIN JACK (1P) | AKB7035 |
| | CN7503 | DIN SOCKET (4P ×2) | AKP7020 |
| | CN7504 | DIN SOCKET (4P) | AKP7045 |
| | X7001 | (16.9344 MHz) | ASS1073 |
| | CN7002 | KR CONNECTOR | B4B–PH–K–S |
| | JA7002 | OPTICAL RECEIV MOD. | GP1F32R |
| | JA7005 | OPTICAL LINK OUT | GP1F32T |
| | X7002 | (18.432 MHz) | RSS1052 |
| | CN7004 | 14P FFC CONNECTOR | VKN1245 |
| | CN7502 | 17P FFC CONNECTOR | VKN1248 |
| | KN7001–KN7003, KN7501 | | VNF1084 |
| | | EARTH METAL FITTING | |

## G VIDEO ASSY

| Mark | No. | Description | Part No. |
|---|---|---|---|
| **SEMICONDUCTORS** | | | |
| | IC7801 | | MM1112XF |
| | IC7802 | | NJM2535M |
| | Q7803 | | 2SA1037K |
| | Q7801 | | 2SC2412K |
| | D7801, D7802, D7805 | | 1SS355 |
| **CAPACITORS** | | | |
| | C7806, C7813 | | CEAT330M16 |
| | C7801, C7803 | | CEAT470M16 |
| | C7816 | | CEAT471M6R3 |
| | C7808, C7809 | | CEJA100M16 |
| | C7805, C7812, C7814, C7825 | | CKSQYF103Z50 |
| | C7811 | | CKSQYF104Z25 |
| | C7897 | | CKSQYF474Z16 |
| **RESISTORS** | | | |
| | All Resistors | | RS1/10S□□□J |
| **OTHERS** | | | |
| | CN7801 | 14P FFC CONNECTOR | 9604S–14C |
| | JA7802 | PIN JACK (1P) | AKB7096 |
| | JA7801 | PIN JACK (2P) | VKB1094 |
| | 7801 | PCB HOLDER (S) | VNE1952 |

## M FRONT (1) ASSY

| Mark | No. | Description | Part No. |
|---|---|---|---|
| **SEMICONDUCTORS** | | | |
| | Q5902 | | DTC143EK |
| **SWITCHES AND RELAYS** | | | |
| | S5901–S5905 | | VSG1009 |
| **RESISTORS** | | | |
| | All Resistors | | RS1/10S□□□J |
| **OTHERS** | | | |
| | CN5901 | 7P FFC CONNECTOR | 52044–0745 |
| | J5903 | 3P JUMPER WIRE | D20PWW0310E |
| | J5902 | 4P JUMPER WIRE | D20PWW0420E |

## N FRONT (2) ASSY

| Mark | No. | Description | Part No. |
|---|---|---|---|
| **SEMICONDUCTORS** | | | |
| | D5901 | | SLP9118C51H |
| **SWITCHES AND RELAYS** | | | |
| | S5906–S5908, S5910 | | VSG1009 |
| **RESISTORS** | | | |
| | All Resistors | | RS1/10S□□□J |

## O LAMP ASSY

| Mark | No. | Description | Part No. |
|---|---|---|---|
| **SEMICONDUCTORS** | | | |
| | Q5903 | | DTD113ES |
| | D5903 | | 1SS254 |
| **OTHERS** | | | |
| | PL5901 | LAMP (DVD) | VEL1022 |

| Mark | No. | Description | Part No. |
|---|---|---|---|

## I MOTHER ASSY

### SEMICONDUCTORS

| | | |
|---|---|---|
| | IC5002 | BA4558F–HT |
| | IC5004 | BU4066BCF |
| | IC5501 | PDG234A |
| | IC5601 | TC7W04F |
| | IC5001 | TC9164AF |
| | Q5505 | 2SA1037K |
| | Q5003, Q5004, Q5512, Q5513 | 2SC2412K |
| | Q5603, Q5604 | 2SC2412K |
| | Q5007–Q5009 | 2SD2114K |
| | Q5507, Q5510, Q5601 | DTA124EK |
| | Q5504 | DTA143EK |
| | Q5501–Q5503, Q5508, Q5509, Q5511 | DTC124EK |
| | Q5602 | DTC124EK |
| | D5502 | 11EQS06 |
| | D5001, D5002, D5005, D5503, D5506 | 1SS254 |
| | D5508, D5601, D5608, D5622 | 1SS254 |
| | D5509, D5616, D5617, D5632, D5633 | 1SS355 |
| | D5629, D5630 | MTZJ5.1B |
| | D5602–D5607, D5619, D5620 | MTZJ8.2B |
| | D5635 | UDZS8.2B |

### COILS AND FILTERS

| | | |
|---|---|---|
| | L5501 | LAU220J |
| | L5601 | LAU2R2J |

### CAPACITORS

| | | |
|---|---|---|
| | C5520 (1F/16V) | ACH1246 |
| | C5001–C5008, C5051–C5055 | CCSQCH101J50 |
| | C5502–C5504, C5507, C5514, C5517 | CCSQCH221J50 |
| | C5615, C5616, C5622 | CCSQCH221J50 |
| | C5510, C5605–C5607 | CEAT101M10 |
| | C5029, C5524 | CEAT1R0M50 |
| | C5032, C5522 | CEAT220M25 |
| | C5009, C5010 | CEAT2R2M50 |
| | C5033, C5034 | CEAT330M16 |
| | C5015, C5016 | CEAT470M10 |
| | C5038–C5042, C5056, C5501, C5511 | CKSQYB102K50 |
| | C5519, C5525, C5528, C5601 | CKSQYB102K50 |
| | C5013, C5014, C5037, C5508, C5509 | CKSQYF103Z50 |
| | C5512, C5515, C5518, C5521 | CKSQYF103Z50 |
| | C5529, C5530, C5604, C5611–C5614 | CKSQYF103Z50 |
| | C5617 | CKSQYF103Z50 |
| | C5516 | CKSQYF104Z50 |
| | C5023, C5513, C5523, C5527 | CKSQYF473Z50 |

### RESISTORS

| | | |
|---|---|---|
| | R5801 | RA4T103J |
| | R5803 | RA5T103J |
| | R5053, R5056 | RD1/2VM431J |
| | R5522 | RS1/10S1801F |
| | Other Resistors | RS1/10S□□□J |

| Mark | No. | Description | Part No. |
|---|---|---|---|

### OTHERS

| | | | |
|---|---|---|---|
| | CN5505 | 7P FFC CONNECTOR | 52492–0720 |
| | CN5503 | 17P FFC CONNECTOR | 9604S–17C |
| | JA5508 | PIN JACK (2P) | AKB7107 |
| | JA5507, JA5509 | PIN JACK (4P) | AKB7108 |
| | CN5509 | 10P MINI DIN SOCKET | AKP7031 |
| | X5501 | (16 MHz) | ASS7020 |
| | CN5504 | 14P PLUG | KM200IA14 |
| | JA5510 | REMOTE CONTROL JACK | RKN1004 |
| | CN5508 | KR CONNECTOR | S2B–PH–K–S |
| | CN5506, CN5507 | 7P FFC CONNECTOR | VKN1211 |
| | CN5501 | 12P FFC CONNECTOR | VKN1216 |
| | CN5502 | 14P FFC CONNECTOR | VKN1274 |

## J POWER MAIN ASSY

### SEMICONDUCTORS

| | | | |
|---|---|---|---|
| ⚠ | IC11 (4A/125V) | | AEK7018 |
| ⚠ | IC18 (200mA/125V) | | AEK7023 |
| ⚠ | IC14 | | NJM78M56FA |
| | Q17, Q19, Q25 | | 2SA1037K |
| | Q16, Q18, Q24 | | 2SC2412K |
| ⚠ | Q20 | | 2SD2395 |
| | Q11 | | DTC114EK |
| | D1 | | 1SS254 |
| ⚠ | D13 | | D2SBA20 (B) |
| ⚠ | D11, D12 | | D3SBA20 (B) |
| | D14, D16, D18 | | MTZJ15A |
| | D17 | | MTZJ8.2B |

### SWITCHES AND RELAYS

| | | | |
|---|---|---|---|
| ⚠ | RY1 | | RSR1037 |

### CAPACITORS

| | | | |
|---|---|---|---|
| | C15, C19, C82, C83 | | CEAT101M10 |
| | C27, C70 | | CEAT101M16 |
| ⚠ | C12 | | CEAT103M10 |
| | C30 | | CEAT221M16 |
| | C14 | | CEAT331M25 |
| ⚠ | C13 | | CEAT682M25 |
| | C24, C29 | | CEJA101M10 |
| | C16, C20, C23, C26, C28 | | CKSQYF103Z50 |
| | C53, C55, C56 | | CKSQYF103Z50 |
| | C99 | | CKSQYF105Z16 |
| ⚠ | C11 (6800 μF/16V) | | VCH1060 |

### RESISTORS

| | | | |
|---|---|---|---|
| ⚠ | R1 (2.2 MΩ) | | DCN1041 |
| | Other Resistors | | RS1/10S□□□J |

### OTHERS

| | | | |
|---|---|---|---|
| ⚠ | 11 | CABLE HOLDER (13P) | 51063–1305 |
| | | SCREW | BBZ30P080FCC |
| | J12 | JUMPER WIRE | D15A13–125–2651 |
| | CN11 | 12P FFC CONNECTOR | VKN1188 |
| | KN1, KN11 | EARTH METAL FITTING | VNF1084 |
| | CN10 | 14P CONNECTOR | B14B–PH–K–S |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | | **K POWER SUB ASSY** | |
| | | **SEMICONDUCTORS** | |
| ⚠ | | IC17 (500mA/125V) | AEK7005 |
| ⚠ | | IC16 (1A/125V) | AEK7009 |
| ⚠ | | Q13, Q15, Q21, Q23 | 2SB1566 |
| | | Q12, Q22 | 2SC2412K |
| | | **RESISTORS** | |
| | | All Resistors | RS1/10S□□□J |
| | | **OTHERS** | |
| ⚠ | 12 | CABLE HOLDER (13P) | 51063–1305 |
| | | **L AC ASSY** | |
| | | **COILS AND FILTERS** | |
| ⚠ | | L1 | ATF–151 |
| | | **CAPACITORS** | |
| ⚠ | | C1, C2 (0.01 µF/250V) | ACG7010 |
| | | **OTHERS** | |
| ⚠ | AN1 | POWER SOCKET | AKP7032 |
| | H1, H2 | FUSE CLIP | AKR1003 |
| | J1 | LEAD WIRE UNIT | DB415NB2 |
| | | **F FM/AM TUNER MODULE** | |
| | | **SEMICONDUCTORS** | |
| | | IC6201 | LA1832ML |
| | | IC6202 | LC72131MD |
| | | Q6402 | 2SC2223 |
| | | Q6203 | 2SC2705 |
| | | Q6201, Q6202 | 2SC2712 |
| | | Q6214, Q6403 | 2SC2714 |
| | | Q6404 | 2SK302 |
| | | Q6401 | 3SK194 |
| | | Q6204 | DTA124ES |
| | | Q6205 | DTC124EK |
| | | D6202 | 1SS254 |
| | | D6401, D6402 | 1T378A |
| | | **COILS AND FILTERS** | |
| | | L6404 | ATC1003 |
| | | L6401 | ATC1020 |
| | | L6402 | ATC1021 |
| | | F6204 | ATF–107 |
| | | F6203 | ATF–119 |
| | | F6401 | ATF–155 |
| | | F6206 | ATF7008 |
| | | F6202 (455 kHz) | ATF7011 |
| | | L6206, L6208, L6403 | LAU2R2J |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | | **TRANSFORMERS** | |
| | | T6201 | ATB7008 |
| | | T6401 | ATE7002 |
| | | **CAPACITORS** | |
| | | C6208 | CCSQCH100D50 |
| | | C6212, C6274, C6275, C6408 | CCSQCH101J50 |
| | | C6221, C6222, C6416 | CCSQCH150J50 |
| | | C6271 | CCSQCH200J50 |
| | | C6415 | CCSQCH330J50 |
| | | C6406 | CCSQCH331J50 |
| | | C6401, C6419 | CCSQCH5R0C50 |
| | | C6407 | CCSQCK1R0C50 |
| | | C6410 | CCSQCK2R0C50 |
| | | C6413 | CCSQRH180J50 |
| | | C6414 | CCSQRH8R0D50 |
| | | C6405 | CCSQTH150J50 |
| | | C6234, C6235 | CEAL1R0M50 |
| | | C6245 | CEAL470M16 |
| | | C6224 | CEAT100M50 |
| | | C6243 | CEAT101M16 |
| | | C6231 | CEAT1R0M50 |
| | | C6227 | CEAT220M25 |
| | | C6214, C6236 | CEAT2R2M50 |
| | | C6262 | CEAT3R3M50 |
| | | C6219 | CEAT470M10 |
| | | C6244 | CEAT470M16 |
| | | C6249, C6250, C6265, C6266 | CEAT4R7M50 |
| | | C6258 | CEJA470M16 |
| | | C6215 | CFTLA103J50 |
| | | C6211, C6254, C6403, C6417 | CKSQYB102K50 |
| | | C6201, C6205, C6210, C6237, C6276 | CKSQYB103K50 |
| | | C6278, C6280, C6281, C6402, C6409 | CKSQYB103K50 |
| | | C6418 | CKSQYB103K50 |
| | | C6251, C6252 | CKSQYB153K50 |
| | | C6203, C6259 | CKSQYB223K50 |
| | | C6228 | CKSQYB472K50 |
| | | C6209 | CKSQYB473K50 |
| | | C6230 | CKSQYB821K50 |
| | | C6218, C6223, C6255 | CKSQYF103Z50 |
| | | C6220, C6226, C6242, C6256 | CKSQYF223Z50 |
| | | C6225 | CKSQYF473Z50 |
| | | **RESISTORS** | |
| | | R6280 | RD1/4PU101J |
| | | R6413, R6416, R6418, R6906, R6909 | RS1/8S0R0J |
| | | R6401 | RS1/8S470J |
| | | VR6201 (10 kΩ) | PCP1029 |
| | | Other Resistors | RS1/10S□□□J |
| | | **OTHERS** | |
| | BN6202 | TERMINAL 4–P | AKE7025 |
| | X6202 | (456 kHz) | ASS1066 |
| | X6201 | (7.2000 MHz) | ASS1093 |
| | CN6201 | 14P SOCKET | KP200IA14L |
| | | AM RF TUNING BLOCK | AXX7041 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | **E DVDM ASSY** | | |
| | **SEMICONDUCTORS** | | |
| | IC171 | | BA10393F |
| | IC161 | | BA6195FP |
| | IC151 | | BA6797FP |
| | IC813 | | CY2081SL–611 |
| | IC503 | | HD74HC573FP |
| | IC702 | | HM514800CJ–7 |
| | IC101 | | LA9700M |
| | IC201 | | LC78650NE |
| | IC802 | | MB811171622A–100FN |
| | IC801 | | MB86371C |
| | IC815, IC816 | | MC14577CF |
| | IC271, IC302 | | NJM2100M |
| | IC203 | | NJM2107F |
| | IC601 | | PD3381A |
| | IC701 | | PD4833A |
| | IC501 | | PD4889A |
| | IC502 | | SRM2B256SLMX70 |
| ⚠ | IC401 | | TA78M08F |
| | IC202, IC204, IC206 | | TC4W53F |
| | IC604 | | TC551001BFL–85 |
| | IC804 | | TC74HCT541AF |
| | IC303 | | TC74HCU04AF |
| | IC807, IC808 | | TC74LCX245FT |
| | IC821 | | TC74VHC00FT |
| | IC814, IC820 | | TC74VHC02FT |
| | IC505, IC605 | | TC74VHC139FT |
| | IC504 | | TC74VHC20FT |
| | IC805, IC806, IC809 | | TC74VHC541FT |
| | IC506 | | TC74VHCT245AFT |
| | IC817 | | TC74VHCT541AFT |
| | IC811, IC818, IC819 | | TC7SHU04F |
| | IC810 | | TC7WU04F |
| | IC301 | | TLC5540INS |
| | IC603 | | VKH1012 |
| | IC6003 | | VYW1570 |
| ⚠ | Q401 | | 2SB1260 |
| | Q108 | | HN1K03FU |
| | Q455, Q831, Q832, Q851, Q852 | | IMT1A |
| | Q871, Q872 | | IMT1A |
| | Q103, Q402, Q873 | | IMX1 |
| | Q102, Q104, Q291, Q301 | | IMZ1A |
| | Q106, Q603 | | PDTA114EK |
| | Q107, Q109, Q261, Q602 | | PDTC114EK |
| | Q601, Q771, Q772 | | PDTC114TK |
| | D301 | | KV1410 |
| | D171, D172 | | MA152WK |
| | D601 | | RB501V–40 |
| | **COILS AND FILTERS** | | |
| | F771, F778, F779 | | DTF1067 |
| | L941, L942, L945, L946 | | QTL1011 |
| | F896 | | VTF1077 |
| | F801 (6.0 MHz) | | VTF1098 |
| | F401–F406 (4700 pF) | | VTH1037 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | L301 (1.5 µH) | | VTL1059 |
| | L101, L302 (10 µH) | | VTL1061 |
| | L802, L803 (22 µH) | | VTL1067 |
| | L335, L340, L342 | | VTL1074 |
| | L777, L780–L787, L895 | | VTL1075 |
| | L897–L899 | | VTL1075 |
| | **CAPACITORS** | | |
| | C623 | | CCSRCH100D50 |
| | C152, C208, C291, C612, C613 | | CCSRCH101J50 |
| | C700, C735, C737, C739 | | CCSRCH101J50 |
| | C897, C898 | | CCSRCH101J50 |
| | C111, C139, C215, C231, C232 | | CCSRCH151J50 |
| | C248 | | CCSRCH151J50 |
| | C125, C148, C329 | | CCSRCH180J50 |
| | C112, C118 | | CCSRCH220J50 |
| | C121, C130, C199, C319, C324 | | CCSRCH330J50 |
| | C120 | | CCSRCH331J50 |
| | C310, C323, C327 | | CCSRCH470J50 |
| | C230 | | CCSRCH471J50 |
| | C126, C331, C838 | | CCSRCH560J50 |
| | C127, C330, C863, C873, C882 | | CCSRCH5R0C50 |
| | C160 | | CCSRCH680J50 |
| | C401 | | CEV101M10 |
| | C101, C104, C201, C325, C601 | | CEV101M6R3 |
| | C701, C704, C706, C801 | | CEV101M6R3 |
| | C803, C804, C813–C815, C826 | | CEV101M6R3 |
| | C123, C158, C264, C412, C414 | | CEV220M16 |
| | C835, C895 | | CEV221M4 |
| | C131, C135, C205, C206, C301 | | CEV470M6R3 |
| | C303, C404, C406, C408, C410 | | CEV470M6R3 |
| | C501, C504, C832, C836, C841 | | CEV470M6R3 |
| | C887 | | CEV470M6R3 |
| | C211 | | CKSQYB104K25 |
| | C109, C124, C216, C220, C229 | | CKSQYB105K10 |
| | C234, C261, C275, C308, C326 | | CKSQYB105K10 |
| | C332, C333, C730, C731 | | CKSQYB105K10 |
| | C818, C823, C828 | | CKSQYF105Z16 |
| | C213, C292, C309, C321 | | CKSRYB102K50 |
| | C105, C106, C108, C146, C147 | | CKSRYB103K50 |
| | C151, C154–C157, C161, C207 | | CKSRYB103K50 |
| | C217, C221, C247, C263, C265 | | CKSRYB103K50 |
| | C276, C318, C320, C620, C705 | | CKSRYB103K50 |
| | C722, C772, C859 | | CKSRYB103K50 |
| | C143, C162–C165, C223, C224 | | CKSRYB104K16 |
| | C242, C273, C274, C311, C312 | | CKSRYB104K16 |
| | C315 | | CKSRYB104K16 |
| | C141 | | CKSRYB222K50 |
| | C328 | | CKSRYB223K25 |
| | C262, C271 | | CKSRYB472K50 |
| | C122 | | CKSRYB473K16 |
| | C102, C103, C113, C129 | | CKSRYF104Z16 |
| | C132–C134, C136, C137, C159 | | CKSRYF104Z16 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | C166, C191, C202–C204, C209 | | CKSRYF104Z16 |
| | C214, C218, C219, C222 | | CKSRYF104Z16 |
| | C226–C228, C235, C237, C241 | | CKSRYF104Z16 |
| | C246, C302, C304, C305, C317 | | CKSRYF104Z16 |
| | C322, C402, C403, C405, C407 | | CKSRYF104Z16 |
| | C409, C411, C413, C415 | | CKSRYF104Z16 |
| | C502, C503, C505–C509 | | CKSRYF104Z16 |
| | C602–C605, C608–C611 | | CKSRYF104Z16 |
| | C614, C615, C617, C621, C622 | | CKSRYF104Z16 |
| | C702, C703, C707–C721 | | CKSRYF104Z16 |
| | C732–C734, C736, C738 | | CKSRYF104Z16 |
| | C740–C742, C771, C791, C800 | | CKSRYF104Z16 |
| | C802, C805–C812, C816, C817 | | CKSRYF104Z16 |
| | C819–C822, C824, C825, C827 | | CKSRYF104Z16 |
| | C829, C830, C833, C834, C837 | | CKSRYF104Z16 |
| | C839, C840, C842–C848 | | CKSRYF104Z16 |
| | C861, C862, C867, C871, C872 | | CKSRYF104Z16 |
| | C876, C878, C881, C883 | | CKSRYF104Z16 |
| | C888–C890 | | CKSRYF104Z16 |
| | C852, C855, C857, C858 (2.2 µF/6.3V) | | VCG1030 |
| | C922–C924 (2.2 µF/6.3V) | | VCG1030 |
| | VC301 (40 pF) | | VCM1010 |
| **RESISTORS** | | | |
| | R752 | | RA4C101J |
| | R507, R508, R624, R628, R633 | | RA4C103J |
| | R703, R704, R717, R718 | | RA4C103J |
| | R745, R746, R761, R762, R792 | | RA4C103J |
| | R812, R813 | | RA4C103J |
| | R137, R501, R502, R505, R506 | | RA4C220J |
| | R604–R607, R712, R713, R719 | | RA4C220J |
| | R724, R748, R749, R791 | | RA4C220J |
| | R802, R803, R808 | | RA4C220J |
| | R602, R603, R610, R613, R618 | | RA4C470J |
| | R100, R101, R11–R14, R141 | | RS1/10S0R0J |
| | R15–R17, R171, R18 | | RS1/10S0R0J |
| | R201–R203, R266, R300, R319 | | RS1/10S0R0J |
| | R333, R411–R413, R701 | | RS1/10S0R0J |
| | R775, R776, R891, R893 | | RS1/10S0R0J |
| | R920, R921, R935, R936 | | RS1/10S0R0J |
| | R205 | | RS1/10S101J |
| | R835, R839, R855, R859, R875 | | RS1/16S1001F |
| | R881 | | RS1/16S1001F |
| | R834, R854, R874 | | RS1/16S1201F |
| | R823–R825 | | RS1/16S1500F |
| | R117, R118 | | RS1/16S1501F |
| | R126 | | RS1/16S1502F |
| | R241, R247 | | RS1/16S2202F |
| | R110, R153, R155, R173, R174 | | RS1/16S2702F |
| | R213, R228, R229, R248 | | RS1/16S2702F |
| | R152, R156, R158–R164 | | RS1/16S4702F |
| | R167–R170, R172, R175, R194 | | RS1/16S4702F |
| | R227 | | RS1/16S4702F |
| | R836, R856, R879 | | RS1/16S5600F |
| | VR801 (1 kΩ) | | VCP1125 |
| | Other Resistors | | RS1/16S□□□J |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| **OTHERS** | | | |
| | CN101 | PH CONNECTOR | S14B–PH–SM3 |
| | CN801 | PH CONNECTOR | S4B–PH–SM3 |
| | | FLEXIBLE CABLE 7P | VDA1681 |
| | TP100, TP200, TP300, TP400 | | VKF1001 |
| | | CHECKER CHIP | |
| | CN201 | B TO B CONNECTOR 14P | VKN1324 |
| | CN106 | 7P FFC CONNECTOR | VKN1411 |
| | CN107 | 12P FFC CONNECTOR | VKN1416 |
| | CN105, CN803 | 14P FFC CONNECTOR | VKN1418 |
| | CN802 | 17P FFC CONNECTOR | VKN1421 |
| | CN102 | 20P FFC CONNECTOR | VKN1445 |
| | KN1–KN3 | EARTH METAL FITTING | VNF1109 |
| | | LABEL | VRW1634 |
| | X602 | (20.00MHz) | VSS1114 |
| | X501 | (10.00MHz) | VSS1115 |

## C INSB ASSY

**SWITCHES AND RELAYS**

| | | | |
|---|---|---|---|
| | S201 | | DSG1017 |

**OTHERS**

| | | | |
|---|---|---|---|
| | CN201 | KR CONNECTOR POST | B3B–PH–K–S |
| | | PCB BINDER | DEF1012 |
| | CN202 | FFC CONNECTOR 8P | VKN1239 |

## D FGSB ASSY

**SEMICONDUCTORS**

| | | | |
|---|---|---|---|
| | PC101 | | GP2S27 (B) |

**RESISTOR**

| | | | |
|---|---|---|---|
| | R101 | | RS1/10S681J |

**OTHERS**

| | | | |
|---|---|---|---|
| | CN101 | KR CONNECTOR 3P | B3B–PH–K–S |

## B LOSB ASSY

**SWITCHES AND RELAYS**

| | | | |
|---|---|---|---|
| | S301 | REAF SWITCH | VSK1011 |

**OTHERS**

| | | | |
|---|---|---|---|
| | CN303 | KR CONNECTOR | B2B–PH–K–S |
| | CN302 | FFC CONNECTOR 8P | VKN1268 |
| | CN301 | FFC CONNECTOR 12P | VKN1272 |

## A LOMB ASSY

**OTHERS**

| | | | |
|---|---|---|---|
| | CN401 | KR CONNECTOR | B2B–PH–K–S |

| Mark | No. | Description | Part No. |
|---|---|---|---|

# 5.2 POWERED SUBWOOFER (HTZ-SW7)

## LIST OF PCB ASSEMBLIES

| | | |
|---|---|---|
| NSP | SPAB ASSY | AWM7429 |
| | ├ CNB ASSY | AWU7172 |
| | ├ POWER SUPPLY ASSY | AWU7289 |
| | ├ AMP ASSY | AWU7290 |
| | ├ PRIMARY ASSY | AWU7291 |
| | ├ SWF ASSY | AWU7292 |
| | ├ IF ASSY | AWU7293 |
| | ├ FLDP ASSY | AWU7294 |
| | └ HP ASSY | AWU7295 |
| NSP | SMCB ASSY | AWM7430 |
| | ├ SECONDARY ASSY | AWU7175 |
| | ├ REG (1) ASSY | AWU7176 |
| | └ MAIN ASSY | AWU7362 |
| | DOLBY DIG 9624 ASSY | AWX7271 |

## Z CNB ASSY

### SEMICONDUCTORS

| | | | |
|---|---|---|---|
| | D8751 | | MTZJ2.0A |
| | D8752–D8755 | | MTZJ8.2B |

### OTHERS

| | | | |
|---|---|---|---|
| | CN3037 | 10P MINI DIN SOCKET | AKP7015 |
| | CN3036 | 10P PLUG | KM200TA10 |

## W POWER SUPPLY ASSY

### SEMICONDUCTORS

| | | |
|---|---|---|
| ⚠ | IC8001 (315mA/125V) | AEK7003 |
| ⚠ | IC8002 | NJM78M56FA |
| | D8005 | 1SS254 |
| ⚠ | D8001–D8004 | S5688G |

### COILS AND FILTERS

| | | |
|---|---|---|
| ⚠ | L8001 | ATF1006 |

### SWITCHES AND RELAYS

| | | |
|---|---|---|
| ⚠ | RY8001 | ASR7018 |

### CAPACITORS

| | | |
|---|---|---|
| ⚠ | C8001–C8003 (0.01 µF/250V) | ACG7010 |
| | C8005 | CEAT102M16 |
| | C8503 | CEAT1R0M50 |
| | C8006 | CEAT330M16 |
| | C8004 | CQMBA103J50 |

### RESISTOR

| | | |
|---|---|---|
| | R8502 | RS1/10S102J |

| Mark | No. | Description | Part No. |
|---|---|---|---|

### OTHERS

| | | | |
|---|---|---|---|
| | H8001, H8002 | FUSE CLIP | AKR1003 |
| | 3002 | 4P CABLE HOLDER | 51048–0400 |
| ⚠ | AN3001 | POWER SOCKET | AKP7032 |
| ⚠ | T8002 | POWER TRANSFORMER | ATT7027 |
| | J3002 | JUMPER WIRE 4P | D20PYY0425E |

## T AMP ASSY

### SEMICONDUCTORS

| | | |
|---|---|---|
| ⚠ | IC3410, IC3411 (250mA/125V) | AEK7002 |
| ⚠ | IC3401 | STK407–040 |
| ⚠ | IC3402 | STK407–240 |
| | Q3425–Q3429 | 2SA1037K |
| | Q3410 | 2SA1145 |
| | Q3414 | 2SA1837 |
| ⚠ | Q3416 | 2SA1941 (P) |
| | Q3405 | 2SA933S |
| | Q3408, Q3409 | 2SA970 |
| | Q3412 | 2SC1740S |
| | Q3417 | 2SC2240 |
| | Q3406, Q3407, Q3430 | 2SC2412K |
| | Q3411 | 2SC2705 |
| | Q3419–Q3422 | 2SC2878 |
| | Q3413 | 2SC4793 |
| ⚠ | Q3415 | 2SC5198 (P) |
| | Q3021–Q3032 | 2SD2114K |
| | Q3423, Q3424 | DTC143EK |
| | D3411–D3414, D3419–D3423 | 1SS254 |
| | D3012–D3019 | 1SS355 |
| | D3416, D3418 | MTZJ24B |

### COILS AND FILTERS

| | | |
|---|---|---|
| | L3401–L3406 (1 µH) | ATH–133 |

### SWITCHES AND RELAYS

| | | |
|---|---|---|
| | RY3401–RY3403 | ASR7014 |

### CAPACITORS

| | | |
|---|---|---|
| | C3446, C3447 | CCCSL101K2H |
| | C3445 | CCCSL181K2H |
| | C3432, C3435 | CCCSL220J50 |
| | C3437 | CCSQCH331J50 |
| | C3407, C3408, C3411, C3412, C3414 | CCSQCH560J50 |
| | C3422, C3425, C3428, C3431, C3434 | CCSQCJ3R0C50 |
| | C3448 | CEANP2R2M50 |
| | C3409, C3410, C3413, C3417, C3419 | CEAT100M50 |
| | C3442, C3481 | CEAT100M50 |
| | C3427, C3430, C3433 | CEAT101M10 |
| | C3402, C3404, C3418, C3420 | CEAT101M50 |
| | C3436 | CEAT221M6R3 |
| | C3415 | CEAT2R2M50 |
| | C3421, C3424, C3443 | CEAT470M10 |
| | C3401, C3403 | CEAT470M50 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | C3405, C3406 | | CEZA2R2M50 |
| | C3456, C3457, C3460, C3461 | | CFTYA224J50 |
| | C3464, C3465, C3468, C3469 | | CFTYA224J50 |
| | C3472, C3473, C3476, C3477 | | CFTYA224J50 |
| | C3416 | | CKCYF223Z50 |
| | C3453, C3454, C3459, C3463, C3467 | | CKSQYB102K50 |
| | C3471, C3475 | | CKSQYB102K50 |
| | C3455 | | CKSQYB473K25 |
| | C9998, C9999 | | CKSQYF103Z50 |
| | C3557 | | CKSQYF334Z25 |

### RESISTORS

| Mark | | | |
|---|---|---|---|
| | R3470 (0.22 Ω/5W) | | ACN7026 |
| | R3511–R3515 (0.1 Ω/1W) | | ACN7032 |
| ⚠ | R3457 | | RD1/2PMF563J |
| | R3484, R3488, R3493, R3498, R3502 | | RD1/4LMF100J |
| | R3507 | | RD1/4LMF100J |
| | R3401, R3402, R3412, R3413 | | RD1/4LMF101J |
| ⚠ | R3464, R3465, R3467, R3468 | | RD1/4PMF101J |
| | R3483 | | RD1/4PMF151J |
| ⚠ | R3459 | | RD1/4PMF563J |
| | R3492 | | RD1/4PMF750J |
| | R3455 | | RD1/4PU222J |
| | R3473 | | RD1/4PU821J |
| ⚠ | R3452, R3453, R3466, R3469 | | RFA1/4PS4R7J |
| | R3477, R3482 | | RS1LMF331J |
| | Other Resistors | | RS1/10S□□□J |

### OTHERS

| Mark | | | |
|---|---|---|---|
| ⚠ | CN3030 | SPEAKER TERMINAL 6–P | AKE7020 |
| | CN3015 | 11P SOCKET | KP200IB11L |
| | CN3022 | 19P SOCKET | KP200IB19L |
| | CN3027 | 3P JUMPER CONNECTOR | KPD3 |
| | CN3033 | 6P JUMPER CONNECTOR | KPE6 |
| ⚠ | CN3017 | B TO B CONNECTOR 10P | RKP1822 |
| ⚠ | JA3029 | SPEAKER TERMINAL 4–P | VKE1001 |
| | KN3402 | EARTH METAL FITTING | VNF1084 |

## Y PRIMARY ASSY

PRIMARY ASSY has no service part.

## V SWF ASSY

### CAPACITORS

| | | |
|---|---|---|
| C3556 | | CKSQYB102K50 |

### OTHERS

| | | |
|---|---|---|
| | CABLE HOLDER (3P) | 51052–0300 |
| CN3028 | 2P CONNECTOR | 5569–02A1 |
| J3027 | JUMPER WIRE | DXUY0310E |
| 3027 | PCB BINDER | VEF1040 |

| Mark | No. | Description | Part No. |
|---|---|---|---|

## P IF ASSY

### SEMICONDUCTORS

| | | |
|---|---|---|
| IC8701 | | TC7W04F |
| D8701–D8711 | | MTZJ8.2B |

### CAPACITORS

| | | |
|---|---|---|
| C8702 | | CKSQYF103Z50 |

### RESISTOR

| | | |
|---|---|---|
| R8701 | | RS1/10S0R0J |

### OTHERS

| | | |
|---|---|---|
| 3026 | PIN JACK (1P) | AKB7035 |
| CN3024 | 10P MINI DIN SOCKET | AKP7015 |
| CN3023 | 10P MINI DIN SOCKET | AKP7031 |
| CN3011 | 18P SOCKET | KP200TA18L |

## AA FLDP ASSY

### SEMICONDUCTORS

| | | |
|---|---|---|
| IC8601 | | LC75710NE |
| Q8601, Q8602, Q8604 | | 2SC2412K |
| Q8603, Q8605 | | DTC124EK |
| D8604, D8605 | | 1SS254 |
| D8603 | | MTZJ39D |
| D8602 | | MTZJ8.2B |
| D8606 | | SLP9118C51H |

### COILS AND FILTERS

| | | |
|---|---|---|
| L8603 | | ATX1012 |
| L8602 | | LAU100J |
| L8601 | | LAU220J |

### CAPACITORS

| | | |
|---|---|---|
| C8611 | | CCSQCH300J50 |
| C8618, C8620 | | CEAL1R0M50 |
| C8616 | | CEAL470M16 |
| C8602 | | CEAT101M6R3 |
| C8613 | | CEJA100M35 |
| C8605 | | CEJA101M6R3 |
| C8604, C8606, C8607, C8615, C8619 | | CKSQYB473K50 |
| C8621–C8623 | | CKSQYB473K50 |
| C8614 | | CKSQYF103Z50 |
| C8603 | | CKSQYF104Z50 |

### RESISTORS

| | | |
|---|---|---|
| R8622 | | RA11T473J |
| R8619 | | RA13T473J |
| R8620, R8621 | | RA14T473J |
| Other Resistors | | RS1/10S□□□J |

### OTHERS

| | | |
|---|---|---|
| V8601 | FL TUBE | AAV7061 |
| 8602, 8603 | FL SPACER | AEB7122 |
| 8601 | REMOTE RECEIVER UNIT | GP1U27X |
| CN3035 | 10P SOCKET | KP200TA10L |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| **U HP ASSY** | | | |
| **CAPACITORS** | | | |
| | C3901, C3902 | | CKCYB102K50 |
| **RESISTORS** | | | |
| | All Resistors | | RS1/10S□□□J |
| **OTHERS** | | | |
| | 3033 | CABLE HOLDER (6P) | 51063–0605 |
| | J3033 | CORD WITH PLUG | ADE7035 |
| | CN3034 | HEADPHONE JACK | AKN1028 |
| **X SECONDARY ASSY** | | | |
| **CAPACITORS** | | | |
| | C8126 | | CQMA104J50 |
| **OTHERS** | | | |
| ⚠ | | CABLE HOLDER (12P) | 51052–1200 |
| | J3008 | JUMPER WIRE | DXUY1215E |
| **R REG (1) ASSY** | | | |
| **SEMICONDUCTORS** | | | |
| | IC8203 | | NJM78M15FA |
| | IC8204 | | NJM79M15FA |
| | IC8201, IC8202 | | PQ20RV1E |
| | D8201, D8202 | | 1SS254 |
| **CAPACITORS** | | | |
| | C8205, C8206 | | CEAT1R0M50 |
| | C8207, C8208 | | CEAT330M16 |
| | C8201, C8203 | | CEJA1R0M50 |
| | C8202, C8204 | | CEJA330M16 |
| **RESISTORS** | | | |
| | R8203 | | RS1/10S1201F |
| | R8202, R8204 | | RS1/10S3900F |
| | R8201 | | RS1/10S6200F |
| **OTHERS** | | | |
| ⚠ | | CABLE HOLDER (11P) | 51063–1105 |
| | J3009 | JUMPER WIRE | D15A11–200–2651 |
| **Q MAIN ASSY** | | | |
| **SEMICONDUCTORS** | | | |
| ⚠ | IC8103, IC8104 (1A/125V) | | AEK7009 |
| ⚠ | IC8105, IC8110 (1.5A/125V) | | AEK7011 |
| ⚠ | IC8111 (2A/125V) | | AEK7013 |
| ⚠ | IC8101, IC8102, IC8112 (4A/125V) | | AEK7018 |
| | IC3001–IC3006, IC3009–IC3012 | | BA4558F–HT |
| | IC3019, IC3020 | | BA4558F–HT |
| | IC3013–IC3015 | | LC7535 |
| | IC8106 | | NJM78L06A |
| | IC8107 | | NJM79L06A |
| | IC8501 | | PDG235B |
| | Q8101 | | 2SB1566 |
| | Q3015–Q3020, Q3031, Q8501–Q8503 | | 2SC2412K |
| | Q8512 | | 2SD2114K |
| | Q3001–Q3004, Q3037, Q3038 | | 2SK208 |
| | Q3006, Q3027, Q3034, Q3039, Q8513 | | DTA124EK |
| | Q3418 | | DTA143EK |
| | Q8506 | | DTC114EK |
| | Q8505, Q8507–Q8511 | | DTC114TK |
| | Q3005, Q3035, Q8504 | | DTC124EK |
| | D3001, D3002, D3005–D3008, D8501 | | 1SS355 |
| | D8503–D8506 | | 1SS355 |
| ⚠ | D8101, D8103 | | D3SBA20 (B) |
| ⚠ | D8102 | | D5SBA20 (B) |
| | D8205, D8206 | | MTZJ18C |
| | D8108 | | MTZJ39A |
| | D8203 | | MTZJ5.6B |
| | D8115 | | MTZJ6.8B |
| | D8204 | | MTZJ7.5C |
| | D8118, D8119 | | MTZJ8.2C |
| | D8104–D8107, D8109, D8110 | | S5688G |
| **COILS AND FILTERS** | | | |
| | L8502 | | ATX1012 |
| | L8501 | | LAU220J |
| **CAPACITORS** | | | |
| | C8103, C8106, C8109, C8112 (1 µF/100V) | | ACH1237 |
| | C8101, C8102 (4700 µF/50V) | | ACH7097 |
| | C8104, C8105 (3300 µF/50V) | | ACH7098 |
| | C3003, C3004, C3009, C3010 | | CCSQCH101J50 |
| | C3015, C3016, C8501 | | CCSQCH101J50 |
| | C3005, C3006, C3011, C3012 | | CCSQCH221J50 |
| | C3017, C3018, C3028, C3038, C3048 | | CCSQCH221J50 |
| | C8504 | | CCSQCH221J50 |
| | C3113, C8519 | | CEANP4R7M50 |
| | C3023, C3024, C3033, C3034 | | CEAT100M50 |
| | C3043, C3044, C3049, C3050 | | CEAT100M50 |
| | C3063, C3064, C3069, C3070 | | CEAT100M50 |
| | C3083, C3084, C3089, C3090, C3092 | | CEAT100M50 |
| | C3103, C3104, C3119–C3122, C3125 | | CEAT100M50 |
| | C3147–C3151, C8113, C8122, C8123 | | CEAT100M50 |
| | C8505 | | CEAT101M10 |
| | C8114 | | CEAT101M2A |
| | C3021, C3022, C3031, C3032 | | CEAT1R0M50 |
| | C3041, C3042, C8118, C8119, C8502 | | CEAT1R0M50 |
| | C8510 | | CEAT1R0M50 |
| | C8512 | | CEAT220M50 |
| | C8116, C8117 | | CEAT330M16 |
| | C8115 | | CEAT331M35 |
| | C8108 | | CEAT471M16 |
| | C8110, C8111 | | CEAT471M35 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | C8107 | | CEAT472M16 |
| | C8127–C8133, C8137 | | CKSQYB102K50 |
| | C8506, C8507, C8513, C8517, C8518 | | CKSQYB103K50 |
| | C8520, C8521, C8523 | | CKSQYB103K50 |
| | C3115–C3118 | | CKSQYB154K16 |
| | C3096 | | CKSQYB184K16 |
| | C3106 | | CKSQYB223K25 |
| | C3059, C3060, C3079, C3080, C3099 | | CKSQYB223K50 |
| | C3102 | | CKSQYB274K16 |
| | C3141–C3145 | | CKSQYB473K25 |
| | C3061, C3062, C3081, C3082, C3101 | | CKSQYB562K50 |
| | C3100 | | CKSQYB564K16 |
| | C3019, C3020, C3025–C3027 | | CKSQYF104Z25 |
| | C3029, C3030, C3035–C3037 | | CKSQYF104Z25 |
| | C3039, C3040, C3045–C3047 | | CKSQYF104Z25 |
| | C3055, C3056, C3067, C3068 | | CKSQYF104Z25 |
| | C3075, C3076, C3087, C3088 | | CKSQYF104Z25 |
| | C3093, C3094, C3107, C3108, C3127 | | CKSQYF104Z25 |
| | C3129, C3131, C3133, C3135, C3137 | | CKSQYF104Z25 |
| | C8511 | | CKSQYF104Z50 |
| | C3123 | | CKSQYF153Z50 |
| | C3124 | | CKSQYF333Z50 |
| | C3126, C3128, C3130 | | CKSQYF473Z50 |

### RESISTORS

| | | | |
|---|---|---|---|
| | R8520 | | RA15T472J |
| ⚠ | R8103 | | RD1/4LMF220J |
| ⚠ | R8101, R8102, R8104 | | RD1/4LMF470J |
| | R3027–R3029 | | RD1/4PU102J |
| | R3193, R3194 | | RD1/4PU105J |
| | R3015, R3016, R8525, R8535 | | RD1/4PU221J |
| | R8116 | | RD1/4PU472J |
| ⚠ | R8105 | | RD1/4VM103J |
| ⚠ | R8199 | | RFA1/4PS4R7J |
| | Other Resistors | | RS1/10S□□□J |

### OTHERS

| | | | |
|---|---|---|---|
| | CN3002 | 4P JUMPER CONNECTOR | 52151–0410 |
| | CN3018 | 10P JUMPER CONNECTOR | AKP7047 |
| | X8501 | (7.70 MHz) | ASS1055 |
| | CN3014, CN3019 | 11P PLUG | KM200IB11 |
| | CN3020 | 15P PLUG | KM200IB15 |
| | CN3021 | 19P PLUG | KM200IB19 |
| | CN3010 | 18P PLUG | KM200TA18 |
| ⚠ | CN3008 | L–CONNECTOR (12P) | KPD12L |
| ⚠ | CN3016 | B TO B CONNECTOR 10P | RKP1784 |
| | KN8101, KN8102 | | VNF1084 |
| | | EARTH METAL FITTING | |

## S DOLBY DIG 9624 ASSY

### SEMICONDUCTORS

| | | |
|---|---|---|
| IC9741, IC9761, IC9781 | | AK4324–VF |
| IC9411, IC9441, IC9471, IC9601, IC9621 | | BA4558F–HT |
| IC9641 | | BA4558F–HT |
| IC9121 | | CD0015AF |
| IC9361 | | KM62V256CLG–7L |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | IC9301 | | MB86342B |
| | IC9501 | | PA4025A |
| | IC9371 | | TC74HCT244AF |
| | IC9103 | | TC74HCU04AF |
| | IC9381 | | TC74LVX244FS |
| | IC9192 | | TC74VHC00FT |
| | IC9182, IC9721 | | TC74VHC157FT |
| | IC9171 | | TC74VHC393FT |
| | IC9172, IC9173, IC9181 | | TC74VHC74FT |
| | IC9174 | | TC7S04FU |
| | IC9183 | | TC7S08F |
| | IC9191 | | TC7S86FU |
| | IC9193, IC9902 | | TC7W08FU |
| | IC9901 | | TC7WU04FU |
| | Q9401, Q9431, Q9461 | | 2PB709A |
| | Q9402, Q9432, Q9462 | | 2PD601A |
| | Q9601, Q9611, Q9621, Q9631, Q9641 | | 2SC3326 |
| | Q9651, Q9831, Q9832, Q9841, Q9842 | | 2SC3326 |
| | Q9833, Q9834, Q9843, Q9844 | | 2SK208 |
| | Q9304, Q9741, Q9822, Q9823, Q9901 | | PDTA124EK |
| | Q9181, Q9191, Q9301–Q9303, Q9821 | | PDTC124EK |
| | D9101, D9193, D9401, D9431, D9461 | | 1SS181 |
| | D9192 | | 1SS184 |
| | D9191, D9402, D9432, D9831, D9832 | | 1SS355 |
| | D9841, D9842 | | 1SS355 |

### COILS AND FILTERS

| | | |
|---|---|---|
| F9911 | | ATF7013 |
| L9301, L9801–L9811 (100 MHz) | | ATL7001 |
| L9171, L9181, L9601, L9611, L9621 (100 MHz) | | OTL1040 |
| L9631, L9641, L9651, L9721 (100 MHz) | | OTL1040 |
| L9741, L9742, L9761, L9762 (100 MHz) | | OTL1040 |
| L9781, L9782 (100 MHz) | | OTL1040 |
| L9103, L9121, L9361, L9371, L9380 (100 MHz) | | VTL1019 |

### CAPACITORS

| | | |
|---|---|---|
| C9125 | | CCSQCH100D50 |
| C9105, C9122, C9126, C9159, C9302 | | CCSQCH101J50 |
| C9309, C9312, C9315, C9318, C9321 | | CCSQCH101J50 |
| C9361, C9381, C9624, C9634, C9905 | | CCSQCH101J50 |
| C9192, C9832, C9842, C9911 | | CCSQCH102J50 |
| C9644 | | CCSQCH151J50 |
| C9413, C9414, C9423, C9424, C9512 | | CCSQCH181J50 |
| C9522 | | CCSQCH181J50 |
| C9901, C9902 | | CCSQCH220J50 |
| C9604, C9614 | | CCSQCH221J50 |
| C9151, C9152, C9173, C9175, C9182 | | CCSQCH271J50 |
| C9184, C9443, C9444, C9453, C9454 | | CCSQCH271J50 |
| C9473, C9474, C9542, C9552, C9572 | | CCSQCH271J50 |
| C9702, C9704, C9709, C9723, C9743 | | CCSQCH271J50 |
| C9746, C9763, C9766, C9783, C9786 | | CCSQCH271J50 |
| C9904 | | CCSQCH271J50 |
| C9326, C9387, C9388, C9511, C9521 | | CCSQCH471J50 |
| C9912 | | CCSQCH560J50 |
| C9412, C9422 | | CCSQCH561J50 |
| C9442, C9452, C9472, C9541, C9551 | | CCSQCH681J50 |

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | C9571 | | CCSQCH681J50 |
| | C9301 | | CEAT471M6R3 |
| | C9107, C9128, C9502, C9504, C9605 | | CEV100M16 |
| | C9615, C9625, C9635, C9645, C9741 | | CEV100M16 |
| | C9744, C9761, C9764, C9781, C9784 | | CEV100M16 |
| | C9171 | | CEV101M6R3 |
| | C9655 | | CEV2R2M50 |
| | C9801, C9802 | | CEV330M25 |
| | C9186, C9242, C9363, C9373, C9383 | | CEV470M6R3 |
| | C9721 | | CEV470M6R3 |
| | C9371 | | CKSQYB102K50 |
| | C9101, C9172, C9183, C9185 | | CKSQYB103K50 |
| | C9483, C9484, C9606, C9616, C9656 | | CKSQYB103K50 |
| | C9701, C9703, C9706–C9708, C9722 | | CKSQYB103K50 |
| | C9903 | | CKSQYB103K50 |
| | C9121, C9153, C9154, C9179 | | CKSQYB104K25 |
| | C9194, C9195 | | CKSQYB104K25 |
| | C9831, C9841 | | CKSQYB222K50 |
| | C9482, C9582 | | CKSQYB223K25 |
| | C9581 | | CKSQYB473K25 |
| | C9626, C9636, C9646 | | CKSQYB822K50 |
| | C9043, C9058, C9106, C9127, C9130 | | CKSQYF104Z25 |
| | C9177, C9178, C9188, C9191, C9193 | | CKSQYF104Z25 |
| | C9196, C9204, C9224, C9303, C9310 | | CKSQYF104Z25 |
| | C9313, C9316, C9319, C9322, C9362 | | CKSQYF104Z25 |
| | C9372, C9382, C9409, C9411, C9421 | | CKSQYF104Z25 |
| | C9439, C9441, C9451, C9469, C9471 | | CKSQYF104Z25 |
| | C9481, C9501, C9503, C9601, C9611 | | CKSQYF104Z25 |
| | C9621, C9631, C9641, C9651, C9742 | | CKSQYF104Z25 |
| | C9745, C9762, C9765, C9782, C9785 | | CKSQYF104Z25 |

## RESISTORS

| | | | |
|---|---|---|---|
| | All Resistors | | RS1/10S□□□J |

## OTHERS

| | | |
|---|---|---|
| X9901 | (18.432 MHz) | ASS1035 |
| | DOLBY DIGITAL PCB | ANP7271 |
| CN9801 | 11P SOCKET | KP200IB11L |
| CN9661 | 15P SOCKET | KP200IB15L |
| CN9301 | 10P JUMPER CONNECTOR | KPE10 |
| JA9000 | PIN JACK (1P) | VKB1077 |

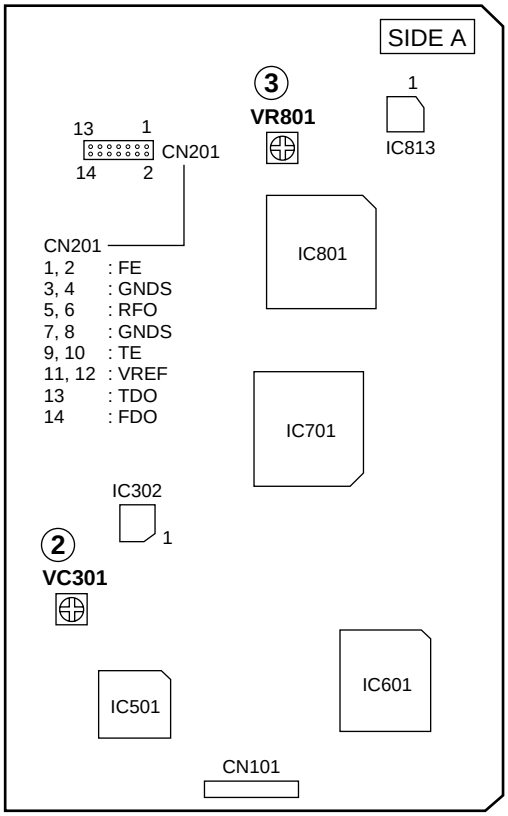
# 6. ADJUSTMENT

## 6.1 DVD SECTION

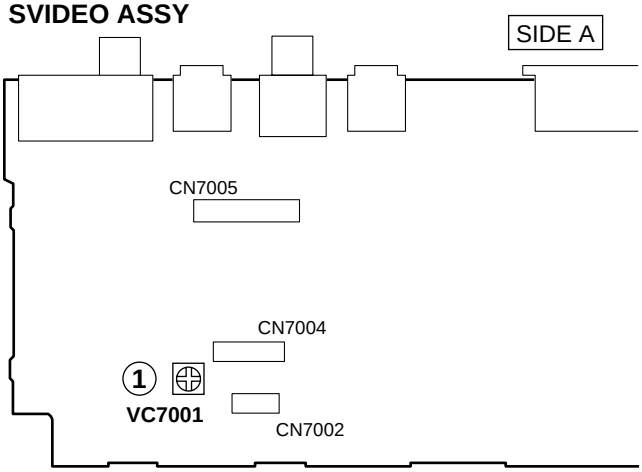
### 6.1.1 ADJUSTMENT ITEMS AND LOCATION

#### ■ Adjustment Points (PCB Part)

**DVDM ASSY**




**SVIDEO ASSY**




#### ■ Adjustment Items

[ Mechanical Part ]

❶ Tangential Skew and Radial Skew Coarse Adjustment

❷ DVD Jitter Adjustment

[ Electrical Part ]

① 18 MHz Master Clock Adjustment

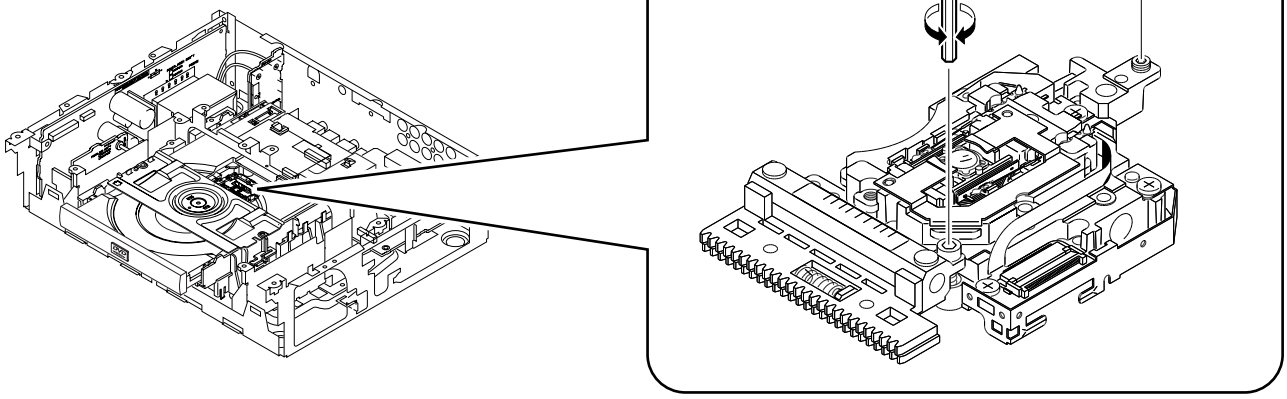
② VCO Offset Adjustment

③ Video Output Level Adjustment

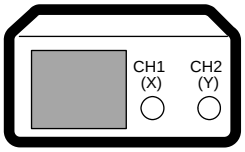
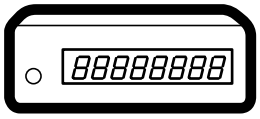
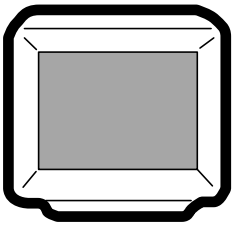
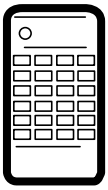
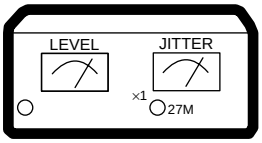
#### ■ Adjustment Points (Mechanical Part)

Note 1:
Remove the tray when adjusting the tangential and radial adjustment screws.

Note 2:
After the adjustment, stabilize the screw with an adhesive.

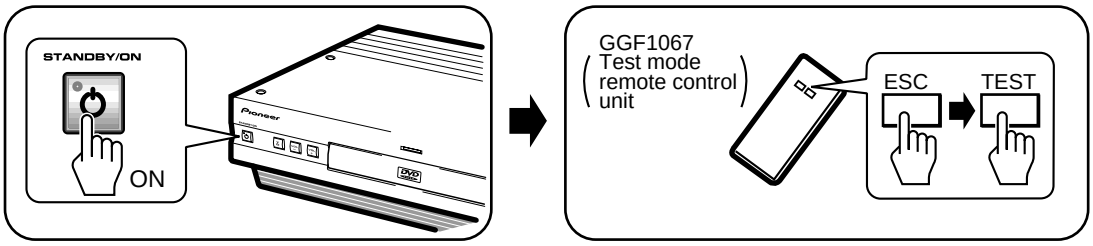


## 6.1.2 JIGS AND MEASURING INSTRUMENTS

| | | | |
|---|---|---|---|
| CD test disc (ABEX–784) | DVD test disc (DVD–MJK1) | ⊖ Screwdriver (medium) | ⊖ Screwdriver (small) |
| ⊖ Precise screwdriver | ⊕ Screwdriver (large) | ⊕ Screwdriver (medium) |   Dual-trace oscilloscope (with delay) Frequency band ≧ 40 MHz |
|   Frequency counter Display digit ≧ 8-digit |  TV monitor |  Test mode remote control unit (GGF1067) | Hexagonal screwdriver |
|   Jitter Meter | Equalizer Unit | | |

### 6.1.3 TEST MODE

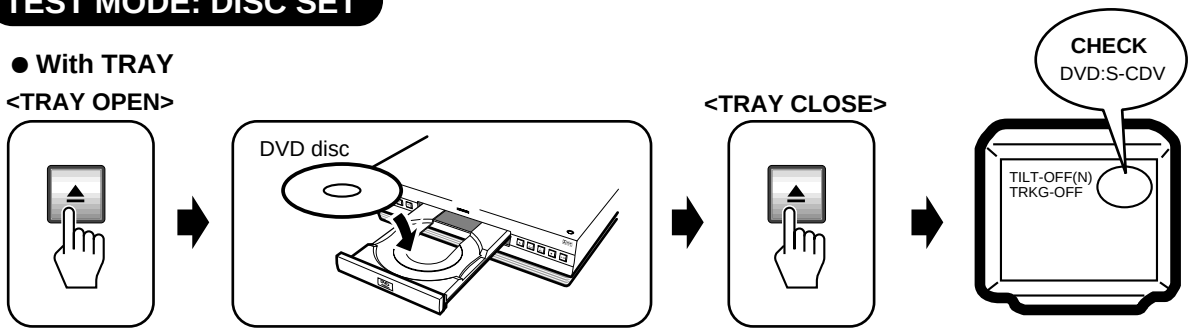
**TEST MODE: ON**




**TEST MODE: DISC SET**

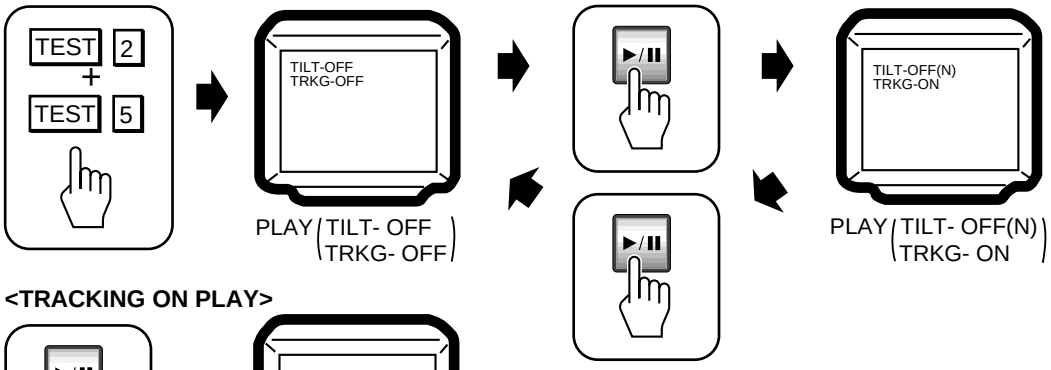
● **With TRAY**

**<TRAY OPEN>** **<TRAY CLOSE>**

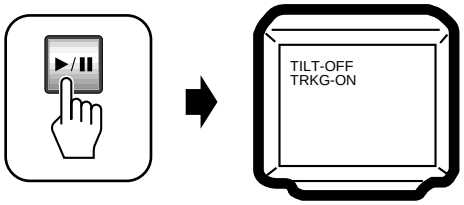



**TEST MODE: PLAY**

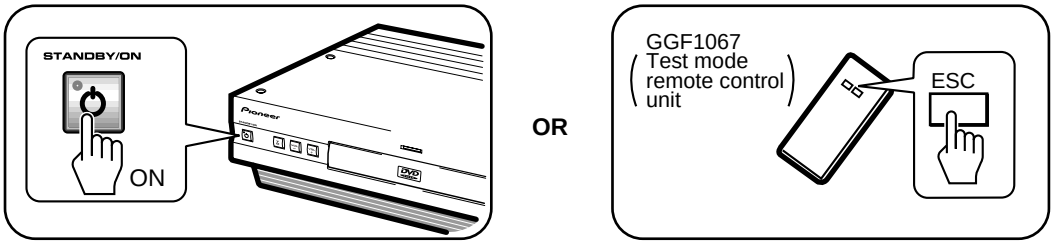
**<TRACKING OFF PLAY>**



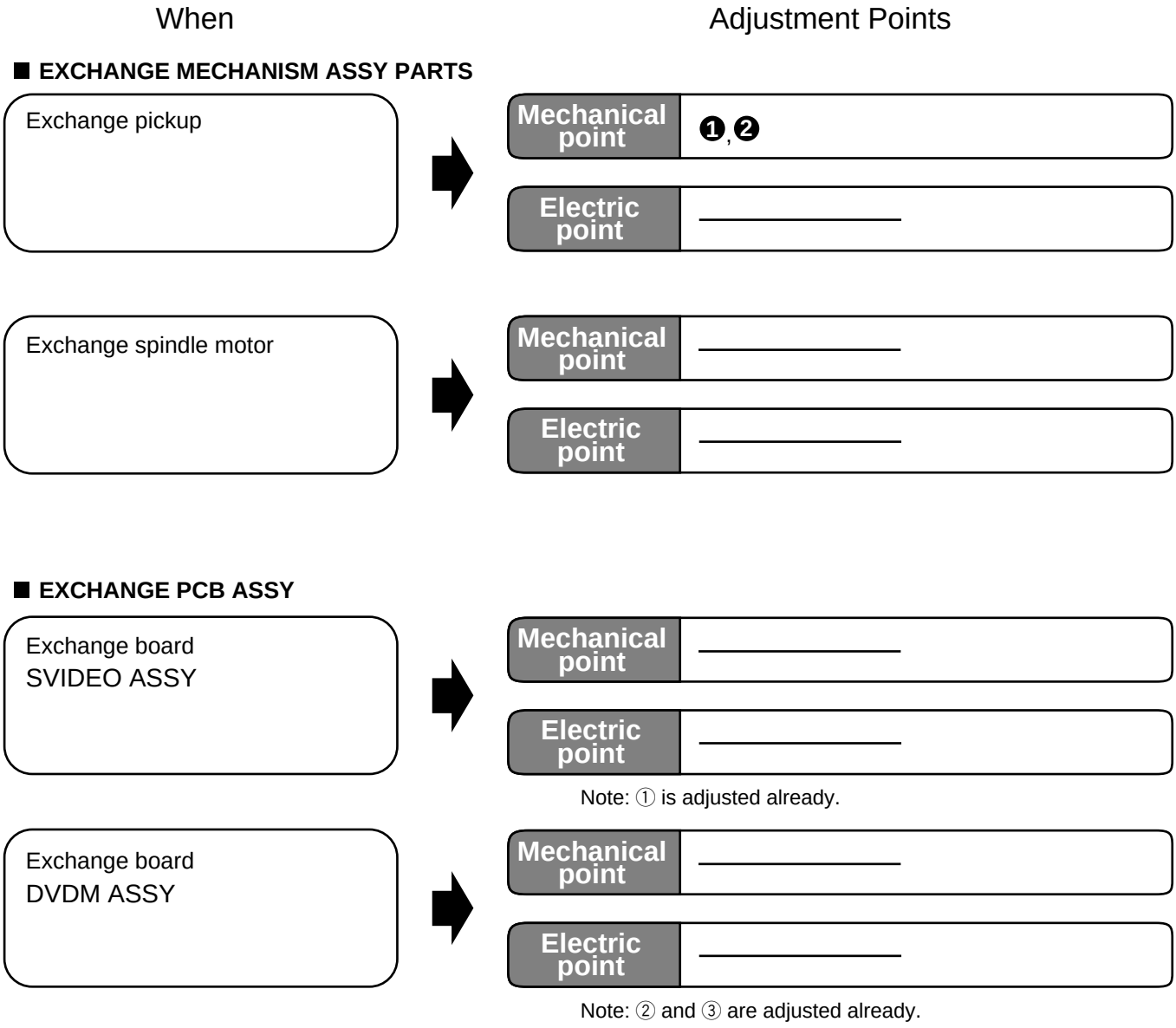

**<TRACKING ON PLAY>**



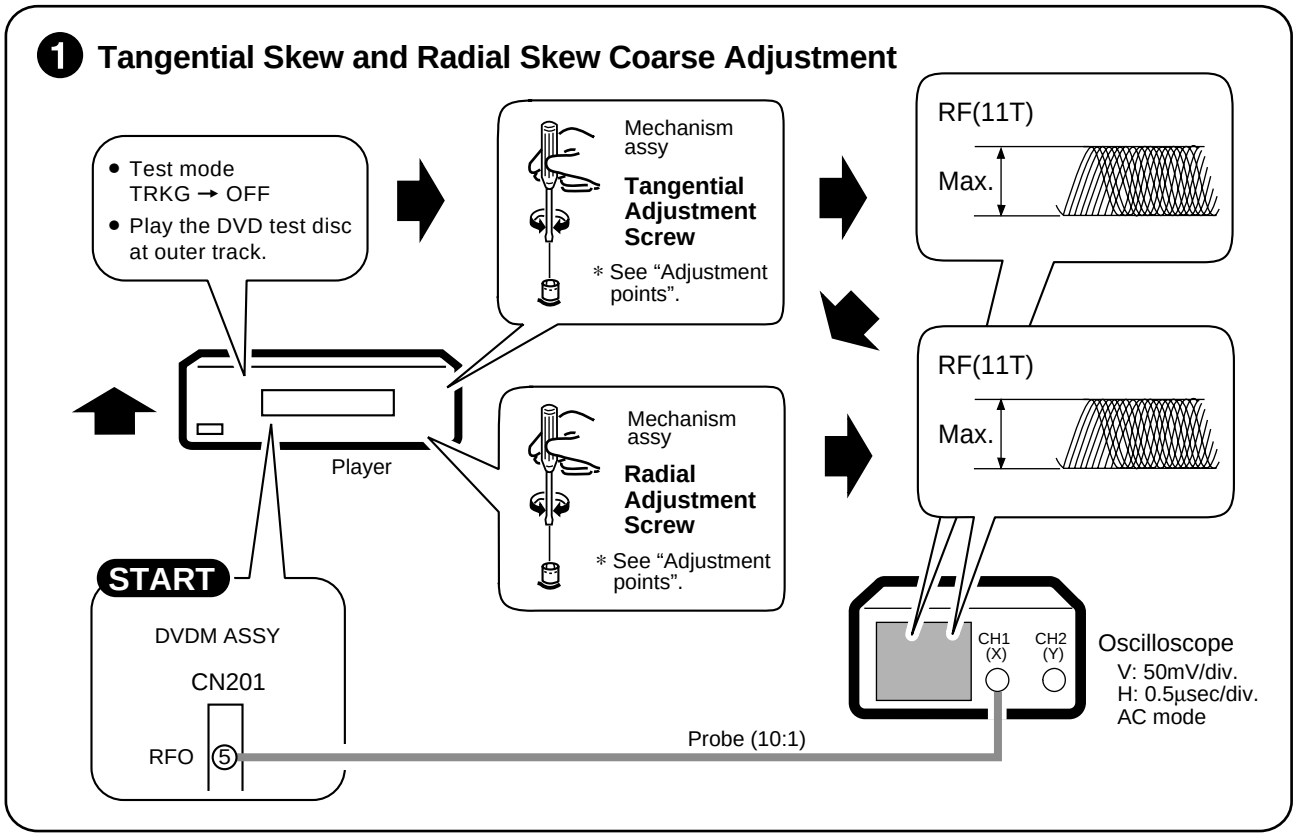

**TEST MODE: OFF**

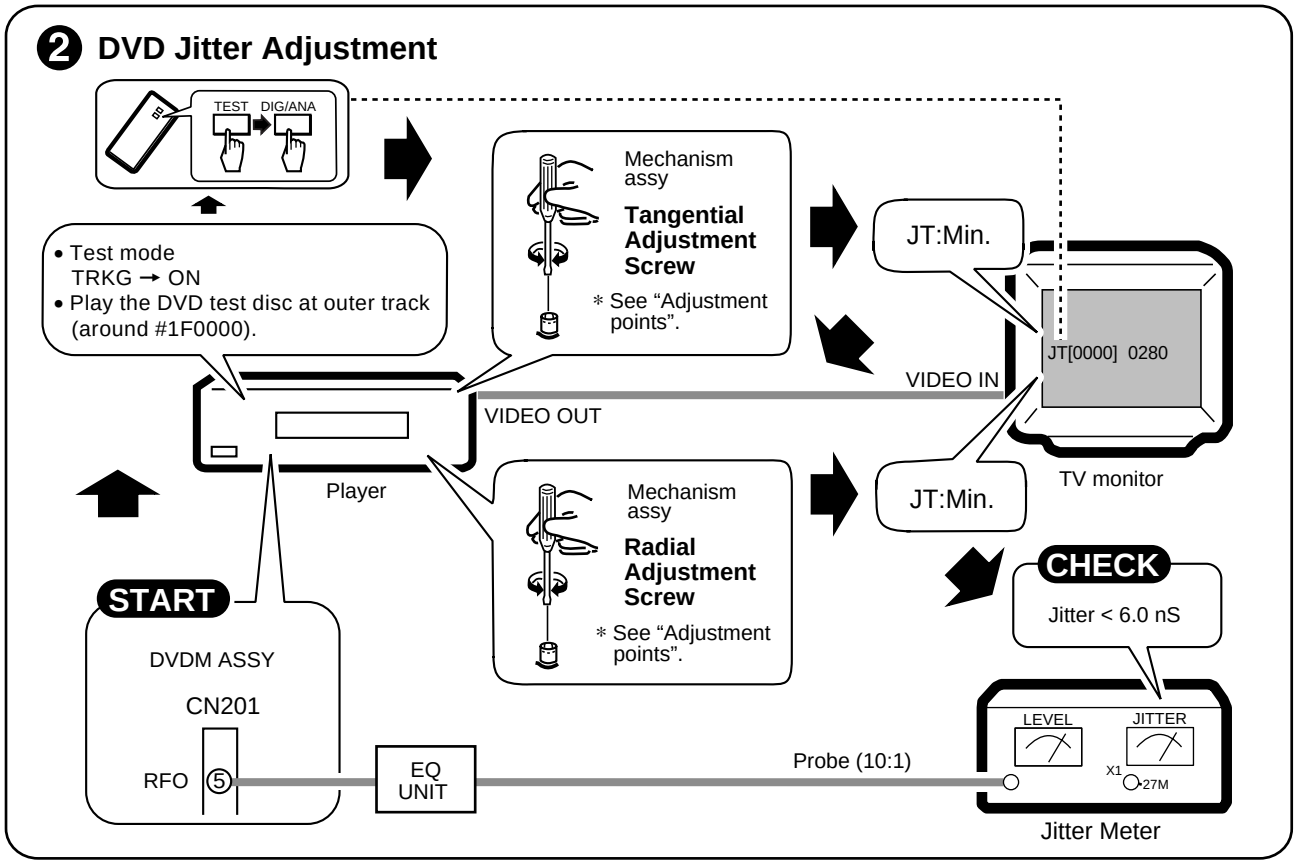


### 6.1.4 NECESSARY ADJUSTMENT POINTS



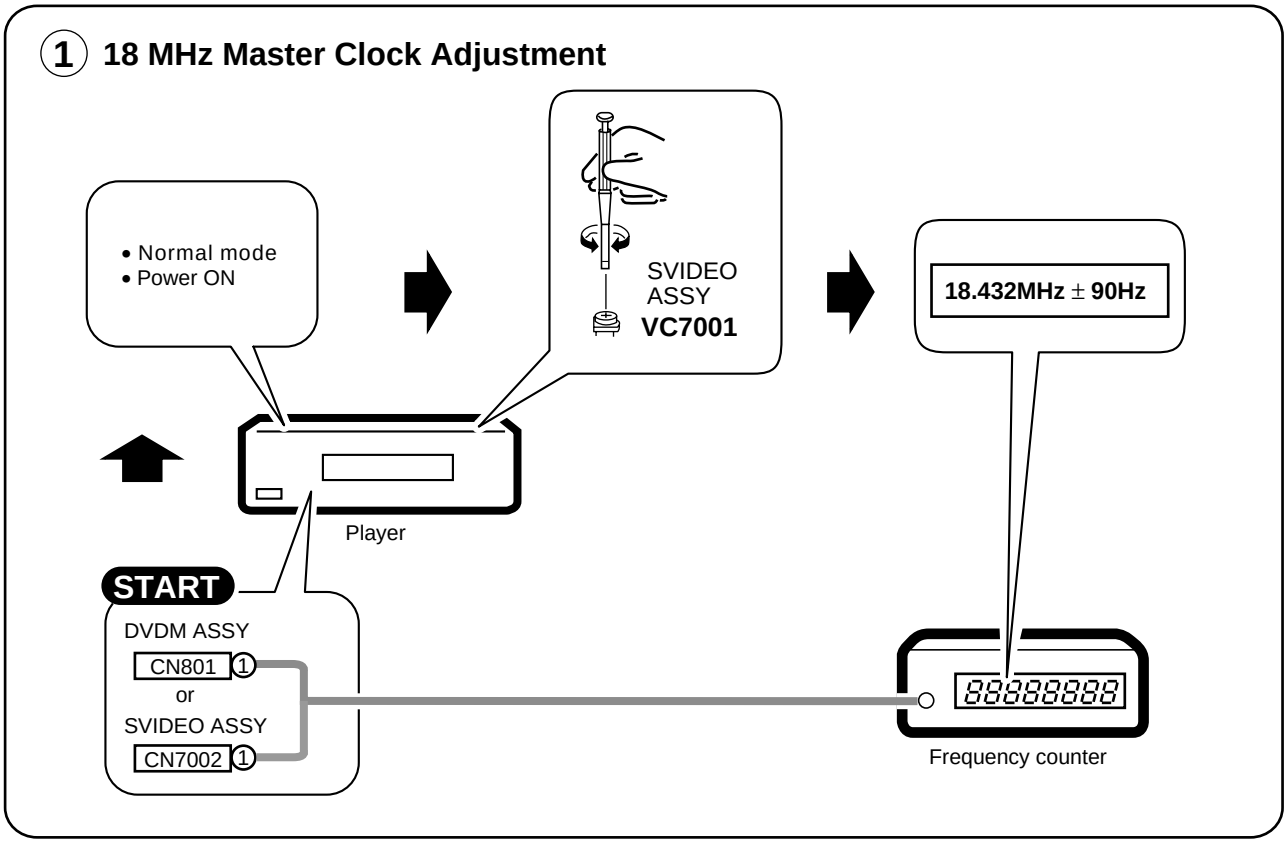
## 6.1.5 MECHANICAL ADJUSTMENT



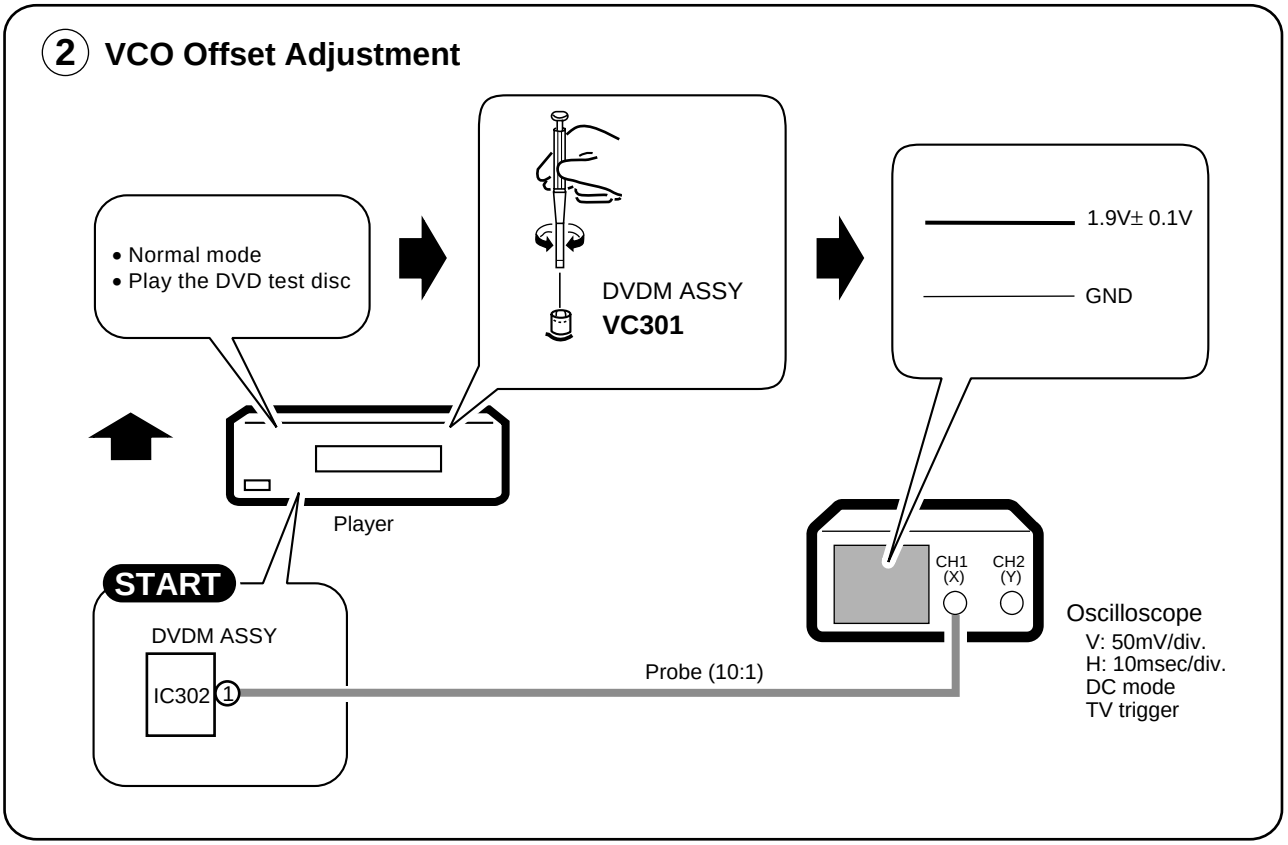



## 6.1.6 ELECTRICAL ADJUSTMENT

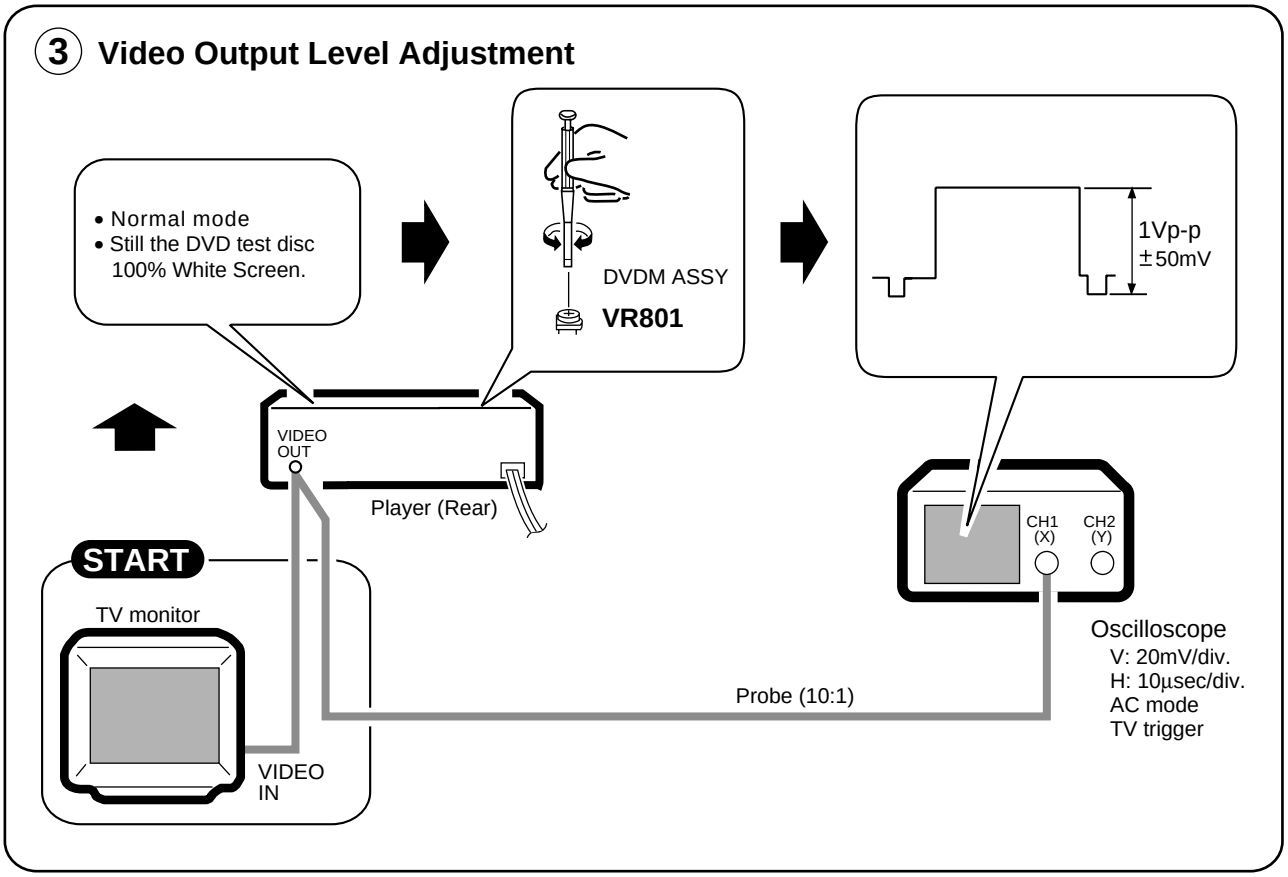
### 1 18 MHz Master Clock Adjustment




### 2 VCO Offset Adjustment

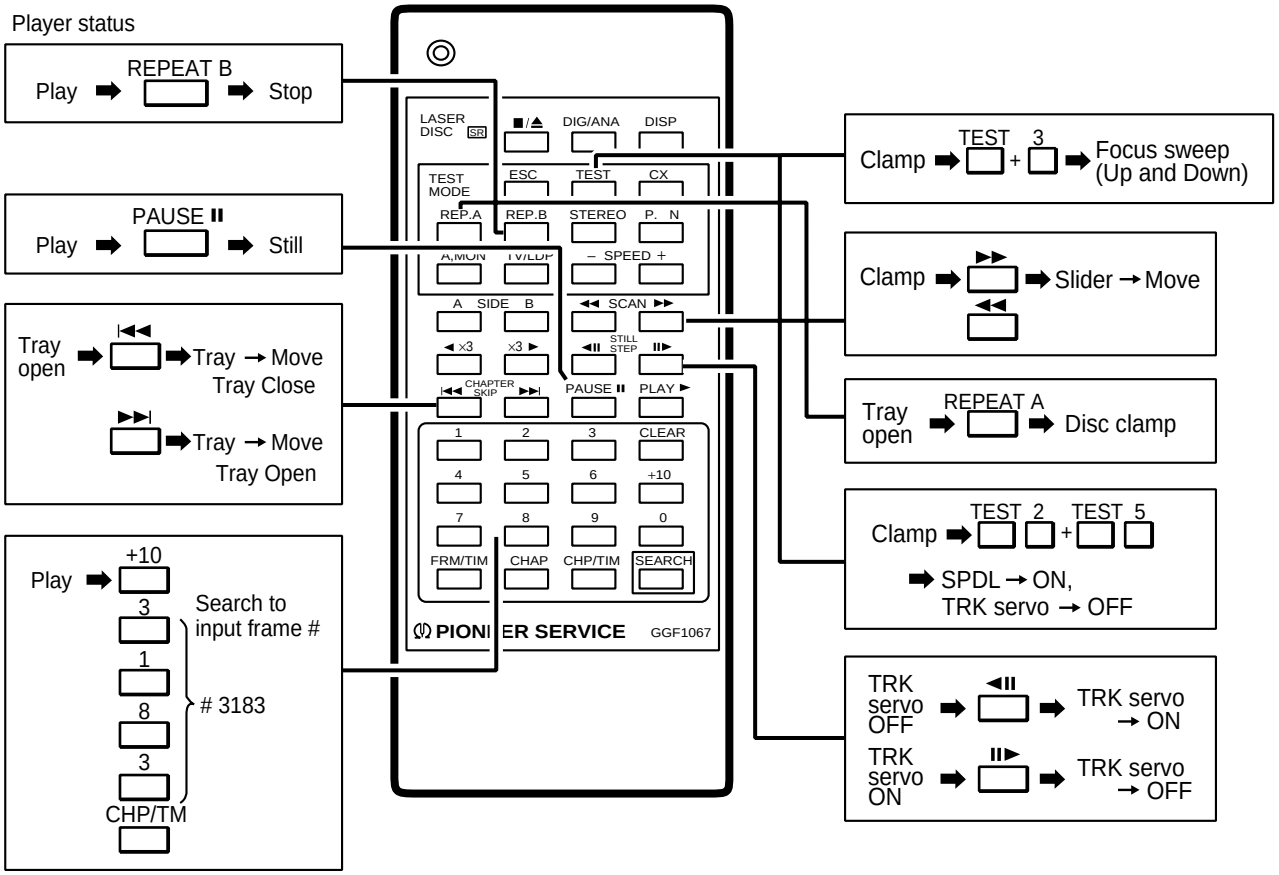


## ③ Video Output Level Adjustment

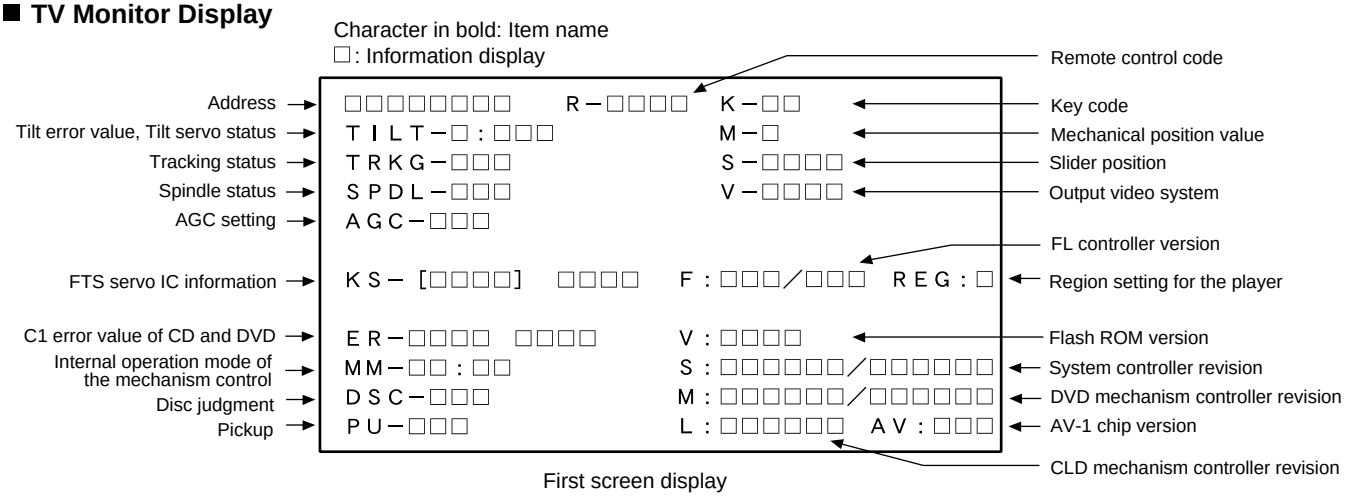


## 6.1.7 OPERATIONS IN THE TEST MODE

### ■ Test Mode Remote Control Unit (GGF1067)

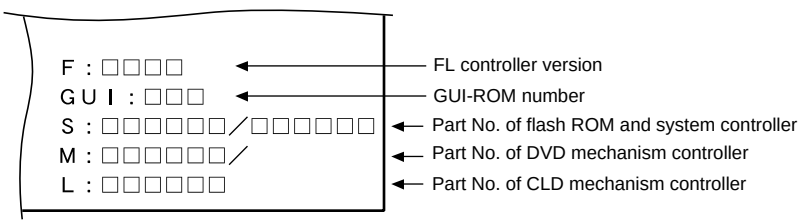

Player status
Play ➡ REPEAT B ➡ Stop
Play ➡ PAUSE II ➡ Still
Tray open ➡ ➡ Tray → Move Tray Close
➡ Tray → Move Tray Open
Play ➡ +10 3 1 8 3 CHP/TM
Search to input frame #
# 3183
Clamp ➡ TEST + 3 ➡ Focus sweep (Up and Down)
Clamp ➡ ➡ Slider → Move
Tray open ➡ REPEAT A ➡ Disc clamp
Clamp ➡ TEST 2 TEST 5 + ➡ SPDL → ON, TRK servo → OFF
TRK servo OFF ➡ ◄II ➡ TRK servo → ON
TRK servo ON ➡ II► ➡ TRK servo → OFF
LASER DISC SR
■/⏏ DIG/ANA DISP
TEST MODE
ESC TEST CX
REP.A REP.B STEREO P. N
A.MON TV/LD – SPEED +
A SIDE B
◄◄ SCAN ►►
◄ ×3 ×3 ►
STILL STEP
CHAPTER SKIP
PAUSE II PLAY ►
1 2 3 CLEAR
4 5 6 +10
7 8 9 0
FRM/TIM CHAP CHP/TIM SEARCH
PIONEER SERVICE GGF1067

### ■ TV Monitor Display


Character in bold: Item name
□: Information display
Address → □□□□□□□□ R－□□□□ K－□□ ← Key code
Tilt error value, Tilt servo status → TILT－□：□□□ M－□ ← Mechanical position value
Tracking status → TRKG－□□□ S－□□□□ ← Slider position
Spindle status → SPDL－□□□ V－□□□□ ← Output video system
AGC setting → AGC－□□□
FL controller version
FTS servo IC information → KS－［□□□□］ □□□□ F：□□□／□□□ REG：□ ← Region setting for the player
C1 error value of CD and DVD → ER－□□□□ □□□□ V：□□□□ ← Flash ROM version
Internal operation mode of the mechanism control → MM－□□：□□ S：□□□□□□／□□□□□□ ← System controller revision
Disc judgment → DSC－□□□ M：□□□□□□／□□□□□□ ← DVD mechanism controller revision
Pickup → PU－□□□ L：□□□□□□ AV：□□□ ← AV-1 chip version
CLD mechanism controller revision
Remote control code

First screen display

Note: Switch the first and second screen by pressing the [DISPLAY] key on the remote control unit.


F：□□□□ ← FL controller version
GUI：□□□ ← GUI-ROM number
S：□□□□□□／□□□□□□ ← Part No. of flash ROM and system controller
M：□□□□□□／ ← Part No. of DVD mechanism controller
L：□□□□□□ ← Part No. of CLD mechanism controller

Second screen display (at lower right portion of the screen)

# 6.2 TUNER SECTION

## 6.2.1 FM TUNER SECTION

- Set the mode selector to FM BAND.
- Connect the wiring as shown in Fig. 1.

| Step No. | Adjustment Title | FM SG (1kHz, ±75kHz dev.) | | Reception Frequency Display | Adjustment Location | Specifications |
|---|---|---|---|---|---|---|
| | | Frequency (MHz) | Level (dBμV) | | | |
| 1 | Front End Sensitivity | 98 | 0 – 30 | 98 MHz | L6402 T6401 | Adjust so that the DC voltage between the IC6201-Pin 20 and GND becomes at maximum level. |
| 2 | TUNED IND. Lighting Level | 98 | 18 ± 2 | 98 MHz | VR6201 | Adjust so that the indicator of TUNED IND. starts to light up. |

Note: Before adjusting, make sure there is no gap between L6401 and L6402. If there is a gap between them, bring them into contact with each other first, and then make adjustments.

## 6.2.2 AM TUNER SECTION

- Set the mode selector to AM BAND.
- Connect the wiring as shown in Fig. 1.

| Step No. | Adjustment Title | AM SG (400Hz, 30% Mod.) | | Reception Frequency Display | Adjustment Location | Specifications |
|---|---|---|---|---|---|---|
| | | Frequency (kHz) | Level (dBμV/m) | | | |
| 1 | Front End Sensitivity | 999*1 | 35 – 45 | 999 kHz*1 | T6201 | Adjust so that the DC voltage between the IC6201-Pin 20 and GND becomes at maximum level. |

*1: For the area using 10 kHz step, frequencies should be 1000 kHz.

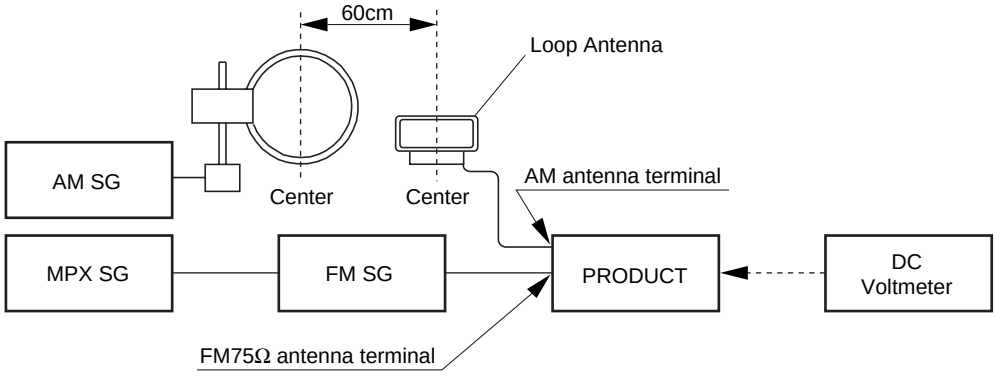



Fig. 1 AM and FM Adjustment Wiring Diagram

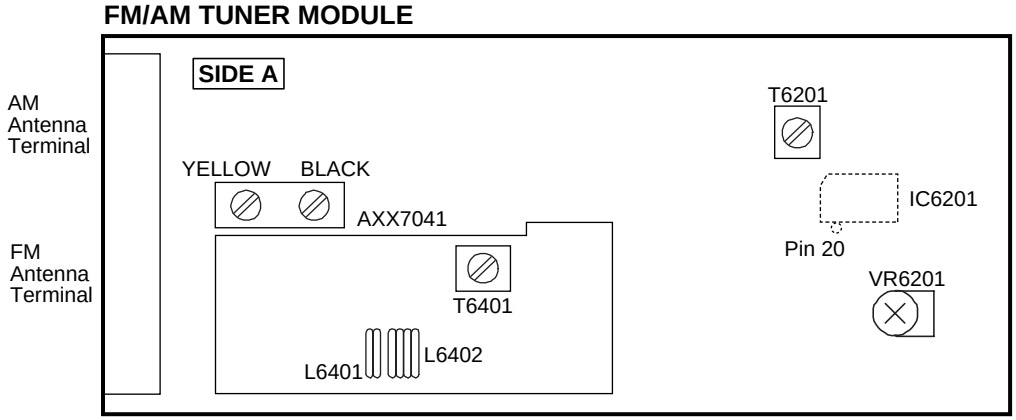



Fig. 2 Adjustment Points

# 7. GENERAL INFORMATION

## 7.1 PARTS

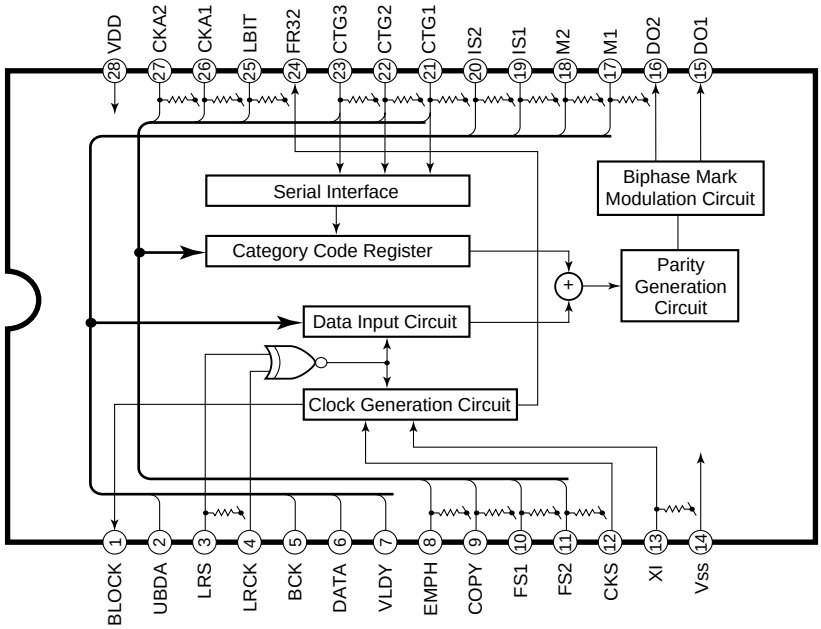
- The information shown in the list is basic information and may not correspond exactly to that shown in the schematic diagrams.

### 7.1.1 IC

### ■ TC9271F (IC7008: SVIDEO ASSY)

### ● Digital Audio Interface Modulation and Transmission IC

● Block Diagram




● Pin Function

| No. | Name | I/O | Description |
|---|---|---|---|
| 1 | BLOCK | O | Block leading head position detection terminal |
| 2 | UBDA | I | User bit data input terminal |
| 3 | LRS | I | LRCK polarity selection terminal<br>LRS: L → L Level: R ch Data, L ch Data; L Level: L ch Data, R ch Data<br>LRS: R → L Level: L ch Data, R ch Data; L Level: R ch Data, L ch Data |
| 4 | LRCK | I | LR clock input terminal |
| 5 | BCK | I | Bit clock input terminal |
| 6 | DATA | I | 2-channel mode: Data input terminal<br>4-channel mode: Data input terminal 1 |
| 7 | VLDY | I | 2-channel mode: Compensation flag input terminal<br>4-channel mode: Data input terminal 2 |
| 8 | EMPH | I | Emphasis flag setting terminal |
| 9 | COPY | I | Parallel setting mode: Copy flag setting terminal<br>Serial setting mode: Fixed to “H” |
| 10 | FS1 | I | Sampling frequency setting terminal 1 |
| 11 | FS2 | I | Sampling frequency setting terminal 2 |
| 12 | CKS | I | Clock division selection terminal |
| 13 | XI | I | Clock input terminal |

| No. | Name | I/O | Description |
|---|---|---|---|
| 14 | Vss | — | GND terminal |
| 15 | DO1 | O | Digital data output terminal 1 |
| 16 | DO2 | O | Digital data output terminal 2 |
| 17 | M1 | I | Channel mode setting terminal 1 |
| 18 | M2 | I | Channel mode setting terminal 2 |
| 19 | IS1 | I | Data input mode setting terminal 1 |
| 20 | IS2 | I | Data input mode setting terminal 2 |
| 21 | CTG1 | I | Parallel setting mode: Category code setting terminal 1<br>Serial setting mode: Data input terminal |
| 22 | CTG2 | I | Parallel setting mode: Category code setting terminal 2<br>Serial setting mode: Clock input terminal |
| 23 | CTG3 | I | Parallel setting mode: Category code setting terminal 3<br>Serial setting mode: Latch pulse input terminal |
| 24 | FR32 | O | FR32 output terminal |
| 25 | LBIT | I | Parallel setting mode: LBIT input terminal 1<br>Serial setting mode: 32/192 bit switching terminal |
| 26 | CKA1 | I | Parallel setting mode: Clock accuracy setting terminal 1<br>Serial setting mode: Fixed to “H” |
| 27 | CKA2 | I | Parallel setting mode: Clock accuracy setting terminal 2<br>Serial setting mode: Output prohibited, fixed to “H” |
| 28 | VDD | — | Power supply voltage terminal |

## ■ PDG234A (IC5501: MOTHER ASSY)

### ● System Micro-computer (for AV center)

● Pin Function

| No. | Symbol | Name | I/O | Description |
|---|---|---|---|---|
| 1 | G1/A1 | ——— | OUT | ——————— |
| 2 | G0/A0 | ——— | OUT | ——————— |
| 3 | NC | ——— | — | ——————— |
| 4 | PE0/INT0/EC0 | ——— | IN | ——————— |
| 5 | PE1/INT1/EC1 | ——— | IN | ——————— |
| 6 | PE2/INT2 | ——— | IN | ——————— |
| 7 | PE3/INT3/NM1 | ——— | IN | ——————— |
| 8 | PE4/RMC | SR_IN | IN | SR input |
| 9 | PE5 | TEST_MODE | IN | Test mode when this port is “L” at the time of power ON |
| 10 | PE6/PWM | AUDIOSW_STAT3 | OUT | AV switching strobe 3 (DIGITAL system) |
| 11 | PE7/TO/ADJ | AUDIOSW_STAT1 | OUT | AV switching strobe (AUDIO system) |
| 12 | PC0/KR0 | AUDIOSW_STAT2 | OUT | AV switching strobe 2 (VIDEO system) |
| 13 | PC1/KR1 | AUDIOSW_DATA | OUT | Function switching IC data |
| 14 | PC2/KR2 | AUDIOSW_CLK | OUT | Function switching IC clock |
| 15 | PC3/KR3 | ——— | OUT | ——————— |
| 16 | PC4/KR4 | SYSBUS_DI | IN | System bus data input [ for ID (priority) confirmation ] |
| 17 | PC5/KR5 | SYSBUS_DO | IN/OUT | System bus data I/O (input except at the time of transmission) |
| 18 | PC6/KR6 | SYSBUS_REQ | IN/OUT | System bus REQ I/O (input except at the time of transmission) |
| 19 | PC7/KR7 | SYSBUS_CLK | OUT | System bus CLK output (always communication master) |
| 20 | PB0/CINT | DVD_XRDY | OUT | DVD-READY |
| 21 | PB1/CS0 | DVD_LT1 | IN | DVD latch |
| 22 | PB2/SCK0 | DVD_XSCK | OUT | DVD serial data CLK |
| 23 | PB3/SI0 | DVD_SI | IN | DVD serial data IN |
| 24 | PB4/SO0 | DVD_SO | OUT | DVD serial data OUT |
| 25 | PB5/SCK1 | DISP_CLK | OUT | Display communication transmission clock output |
| 26 | PB6/SI1 | DISP_REQ_MD | OUT | Display communication REQ to MD |
| 27 | PB7/SO1 | DISP_DATA | OUT | Display communication transmission data output |
| 28 | PI0 | ——— | IN | ——————— |
| 29 | PA0/AN0 | KEY_IN | IN | AD input for main unit key input |
| 30 | PA1/AN1 | SLEEP | IN | AD input for confirmation of microcomputer power supply 5.6 V DOWN (for backup) |
| 31 | PA2/AN2 | FAN DET | IN | AD input for confirmation of heat dissipation fan operation |
| 32 | PA3/AN3 | 3.3V DET | IN | AD input for confirmation of DVD power supply 3.3 V DOWN (for sag correspondence) |
| 33 | PA4/AN4 | MS1 | IN | AD input for destination switching, 0: J/1: KU |
| 34 | PA5/AN5 | AD_OVL | IN | AD input overload detection AD input |
| 35 | PA6/AN6 | AV_5.6V | IN | AD input for confirmation of AV center 5.0 V power supply DOWN |
| 36 | PA7/AN7 | XSTEREO/TUNED | IN | ADL for TUNER stereo reception OK/reception OK |
| 37 | PI1 | ——— | — | GND |
| 38 | RST | ——— | — | Reset |
| 39 | EXTAL | ——— | — | Oscillator 16 MHz |
| 40 | XTAL | ——— | — | Oscillator 16 MHz |
| 41 | Vss | ——— | — | GND |
| 42 | PI2/TX | ——— | — | GND |
| 43 | PI3/TEX | ——— | — | GND |
| 44 | VDD | ——— | — | 5V |
| 45 | Vfdp | ——— | — | GND |
| 46 | PD0/A55 | TX_DI (OUT) | OUT | TUNER data output |
| 47 | PD1/A54 | TX_CLOCK | OUT | TUNER clock output |
| 48 | PD2/A53 | TX_CE | OUT | TUNER CE output |
| 49 | PD3/A52 | TX_MUTE | OUT | TUNER mute output |

| No. | Symbol | Name | I/O | Description |
|---|---|---|---|---|
| 50 | PD4/A51 | TX_DO (IN) | OUT | TUNER data input |
| 51 | PD5/A50 | ——— | OUT | ——————— |
| 52 | PD6/A49 | DVD_RESET | OUT | DVD player reset output |
| 53 | PD7/A48 | ——— | OUT | ——————— |
| 54 | PF0/A47 | ——— | OUT | ——————— |
| 55 | PF1/A46 | ——— | OUT | ——————— |
| 56 | PF2/A45 | DISP_REQ | OUT | Display reception REQ to powered subwoofer |
| 57 | PF3/A44 | ——— | OUT | ——————— |
| 58 | PF4/A43 | ——— | OUT | ——————— |
| 59 | PF5/A42 | ——— | OUT | ——————— |
| 60 | PF6/A41 | ——— | OUT | ——————— |
| 61 | PF7/A40 | ——— | OUT | ——————— |
| 62 | PG0/A39 | xAUDIO1_MUTE | OUT | AUDIO1 REC out mute (LOW active) |
| 63 | PG1/A38 | ——— | OUT | ——————— |
| 64 | PG2/A37 | ——— | OUT | ——————— |
| 65 | PG3/A36 | xAUDIO_MUTE | IN | Audio mute (LOW active) |
| 66 | PG4/A35 | ——— | OUT | ——————— |
| 67 | PG5/A34 | ——— | OUT | ——————— |
| 68 | PG6/A33 | FUNC_NO_CLOCK | OUT | At the time of data transmission to TC9162, TC9164, “L” . Coupled with IC strobe 1 |
| 69 | PG7/A32 | AUDIO_REC_CTL | OUT | AUDIO REC out switching |
| 70 | PH0/A31 | ——— | OUT | ——————— |
| 71 | PH1/A30 | ——— | OUT | ——————— |
| 72 | PH2/A29 | ——— | OUT | ——————— |
| 73 | PH3/A28 | XLED_POWER | OUT | POWER LED control, “H”: Lit |
| 74 | PH4/A27 | XLED_DVD | OUT | DVD LED control, “H”: Lit |
| 75 | PH5/A26 | xLED_PLAY | OUT | PLAY LED control, “H”: Lit |
| 76 | PH6/A25 | XPW_TUNER | OUT | Tuner power ON/OFF |
| 77 | PH7/A24 | XPW_DVD | OUT | DVD power ON/OFF |
| 78 | A23 | ——— | OUT | ——————— |
| 79 | A22 | ——— | OUT | ——————— |
| 80 | A21 | ——— | OUT | ——————— |
| 81 | A20 | ——— | OUT | ——————— |
| 82 | A19 | ——— | OUT | ——————— |
| 83 | A18 | ——— | OUT | ——————— |
| 84 | A17 | ——— | OUT | ——————— |
| 85 | A16 | ——— | OUT | ——————— |
| 86 | G15/A15 | ——— | OUT | ——————— |
| 87 | G14/A14 | ——— | OUT | ——————— |
| 88 | G13/A13 | ——— | OUT | ——————— |
| 89 | VDD | ——— | — | 5V |
| 90 | G12/A12 | ——— | OUT | ——————— |
| 91 | G11/A11 | ——— | OUT | ——————— |
| 92 | G10/A10 | ——— | OUT | ——————— |
| 93 | G9/A9 | ——— | OUT | ——————— |
| 94 | G8/A8 | ——— | OUT | ——————— |
| 95 | G7/A7 | ——— | OUT | ——————— |
| 96 | G6/A6 | ——— | OUT | ——————— |
| 97 | G5/A5 | ——— | OUT | ——————— |
| 98 | G4/A4 | ——— | OUT | ——————— |
| 99 | G3/A3 | ——— | OUT | ——————— |
| 100 | G2/A2 | ——— | OUT | ——————— |

## ■ PDG235B (IC8501: MAIN ASSY)

## ● System Micro-computer (for Subwoofer)

● Pin Function

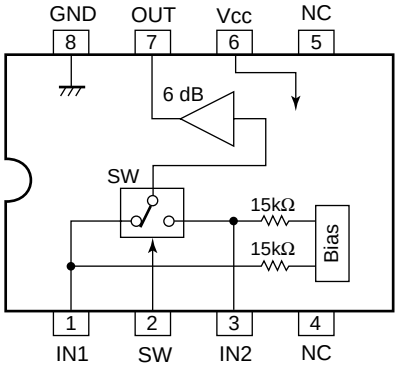
| No. | Symbol | Name | I/O | Description |
|---|---|---|---|---|
| 1 | G1/A1 | ——— | OUT | ——————— |
| 2 | G0/A0 | ——— | OUT | ——————— |
| 3 | NC | ——— | — | 5V |
| 4 | PE0/INT0/EC0 | ——— | IN | 5V |
| 5 | PE1/INT1/EC1 | AC_PULSE | IN | AC pulse input (interrupt use) |
| 6 | PE2/INT2 | SYSBUS_CLOCK | IN | System bus clock input (interrupt use) |
| 7 | PE3/INT3/NM1 | AC3_REQ | IN | Communication request from the AC3 board, “L”: Communication request (interrupt use) |
| 8 | PE4/RMC | REM_IN | IN | Remote control input |
| 9 | PE5 | TEST_MODE | IN | Test mode when L at the time of power ON |
| 10 | PE6/PWM | ——— | OUT | ——————— |
| 11 | PE7/TO/ADJ | ——— | OUT | ——————— |
| 12 | PC0/KR0 | ——— | OUT | ——————— |
| 13 | PC1/KR1 | FL_DATA | OUT | FL driver data |
| 14 | PC2/KR2 | DEM_LOCK | IN | When the modulator IC is locked to the RF signal, “L” Input |
| 15 | PC3/KR3 | DIR_LOCK | IN | When DIR is locked to the digital input signal, “L” Input |
| 16 | PC4/KR4 | SYSBUS_DI | IN | System bus data input [ for ID (priority) confirmation ] |
| 17 | PC5/KR5 | SYSBUS_DO | IN/OUT | System bus data output |
| 18 | PC6/KR6 | SYSBUS_REQ | IN/OUT | System bus REQ I/O (input except at the time of transmission) |
| 19 | PC7/KR7 | FL_CLK | OUT | FL diver clock |
| 20 | PB0/CINT | FL_CE | OUT | FL driver address/data status |
| 21 | PB1/CS0 | AC3_CS | OUT | Chip selection for AC-3 board communication |
| 22 | PB2/SCK0 | AC3_CLK | OUT | Serial clock for AC-3 board communication |
| 23 | PB3/SI0 | AC3_OUT | IN | Serial data input for AC-3 board communication |
| 24 | PB4/SO0 | AC3_DATA | OUT | Serial data output for AC-3 board communication |
| 25 | PB5/SCK1 | DISP_CLOCK | IN | Clock input for display communication |
| 26 | PB6/SI1 | DISP_DATA | IN | Data input for display communication |
| 27 | PB7/SO1 | DISP_REQ | IN | REQ output for display communication |
| 28 | AVref | ——— | — | 5V |
| 29 | PA0/AN0 | HP_SW | IN | Headphone insertion detection |
| 30 | PA1/AN1 | DC DETECT | IN | Power supply trouble detection AD |
| 31 | PA2/AN2 | TEMP_HI1 | IN | Temperature rise detection, amplifier 1 |
| 32 | PA3/AN3 | TEMP_HI2 | IN | Temperature rise detection, amplifier 2 |
| 33 | PA4/AN4 | ——— | OUT | ——————— |
| 34 | PA5/AN5 | ——— | OUT | ——————— |
| 35 | PA6/AN6 | ——— | OUT | ——————— |
| 36 | PA7/AN7 | OL_DET | IN | Overcurrent detection |
| 37 | AVss | GND | — | ——————— |
| 38 | RST | RESET | — | ——————— |
| 39 | EXTAL | ——— | — | Oscillator 7.70MHz |
| 40 | XTAL | ——— | — | Oscillator 7.70MHz |
| 41 | Vss | GND | — | ——————— |
| 42 | TX | OPEN_GND | — | ——————— |
| 43 | TEX | GND | — | ——————— |
| 44 | VDD | ——— | — | 5V |
| 45 | Vfdp | ——— | — | ——————— |
| 46 | PD0/A55 | AD/DIR | OUT | Master/Slave selection, “L”: Analog, “H”: Digital |
| 47 | PD1/A54 | ——— | OUT | ——————— |
| 48 | PD2/A53 | AC3_RST | OUT | AC-3 board: Reset |
| 49 | PD3/A52 | AC3_BST | OUT | AC-3 board: Bootstrap |

| No. | Symbol | Name | I/O | Description |
|---|---|---|---|---|
| 50 | PD4/A51 | ——— | OUT | ——————— |
| 51 | PD5/A50 | ——— | OUT | ——————— |
| 52 | PD6/A49 | ——— | OUT | ——————— |
| 53 | PD7/A48 | ——— | OUT | ——————— |
| 54 | PF0/A47 | ——— | OUT | ——————— |
| 55 | PF1/A46 | ——— | OUT | ——————— |
| 56 | PF2/A45 | ——— | OUT | ——————— |
| 57 | PF3/A44 | ——— | OUT | ——————— |
| 58 | PF4/ | ——— | OUT | ——————— |
| 59 | PF5/A42 | ——— | OUT | ——————— |
| 60 | PF6/A41 | SW ATT | OUT | Subwoofer ATT control, L: DOLBY/Through, “H”: SFC ON |
| 61 | PF7/A40 | 48/96 | OUT | 48/96 kHz switching FET switch control, “H”: 48 kHz, “L”: 96 kHz |
| 62 | PG0/A39 | A_CLK1 | OUT | Electronic volume 1, clock output |
| 63 | PG1/A38 | A_DATA1 | OUT | Electronic volume 1, data output |
| 64 | PG2/A37 | A_CE1 | OUT | Electronic volume 1, CE output |
| 65 | PG3/A36 | A_CLK2 | OUT | Electronic volume 2, clock output |
| 66 | PG4/A35 | A_DATA2 | OUT | Electronic volume 2, data output |
| 67 | PG5/A34 | A_CE2 | OUT | Electronic volume 2, CE output |
| 68 | PG6/A33 | AUDIO_MUTE | OUT | AUDIO mute |
| 69 | PG7/A32 | HP_MUTE | OUT | Headphone mute |
| 70 | PH0/A31 | RELAY_FRONT | OUT | Relay, front |
| 71 | PH1/A30 | RELAY_SUB | OUT | Relay, subwoofer |
| 72 | PH2/A29 | VOL_ATT | OUT | Volume ATT switching, “H”: 0 to 17, “L”: 18 to 35 |
| 73 | PH3/A28 | RELAY_AC1 | OUT | Relay AC1 |
| 74 | PH4/A27 | RELAY_AC2 | OUT | Relay AC2 |
| 75 | PH5/A26 | ——— | OUT | ——————— |
| 76 | PH6/A25 | ——— | OUT | ——————— |
| 77 | PH7/A24 | ——— | OUT | ——————— |
| 78 | A23 | ——— | OUT | ——————— |
| 79 | A22 | ——— | OUT | ——————— |
| 80 | A21 | ——— | OUT | ——————— |
| 81 | A20 | ——— | OUT | ——————— |
| 82 | A19 | ——— | OUT | ——————— |
| 83 | A18 | ——— | OUT | ——————— |
| 84 | A17 | ——— | OUT | ——————— |
| 85 | A16 | ——— | OUT | ——————— |
| 86 | G15/A15 | ——— | OUT | ——————— |
| 87 | G14/A14 | ——— | OUT | ——————— |
| 88 | G13/A13 | ——— | OUT | ——————— |
| 89 | VDD | ——— | — | 5V |
| 90 | G12/A12 | ——— | OUT | ——————— |
| 91 | G11/A11 | ——— | OUT | ——————— |
| 92 | G10/A10 | ——— | OUT | ——————— |
| 93 | G9/A9 | ——— | OUT | ——————— |
| 94 | G8/A8 | ——— | OUT | ——————— |
| 95 | G7/A7 | ——— | OUT | ——————— |
| 96 | G6/A6 | ——— | OUT | ——————— |
| 97 | G5/A5 | ——— | OUT | ——————— |
| 98 | G4/A4 | ——— | OUT | ——————— |
| 99 | G3/A3 | ——— | OUT | ——————— |
| 100 | G2/A2 | ——— | OUT | ——————— |

## ■ MM1112XF (IC7801: VIDEO ASSY)

### ● Video Switch

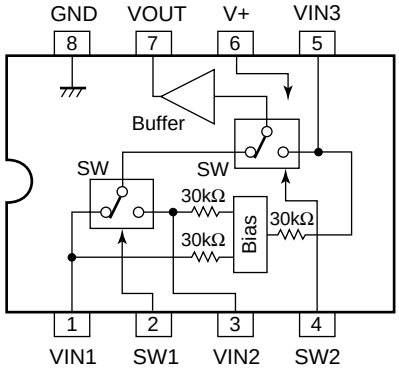
● Block Diagram




## ■ NJM2534M (IC7505: SVIDEO ASSY)

### ● 3-input Signal Video Switch

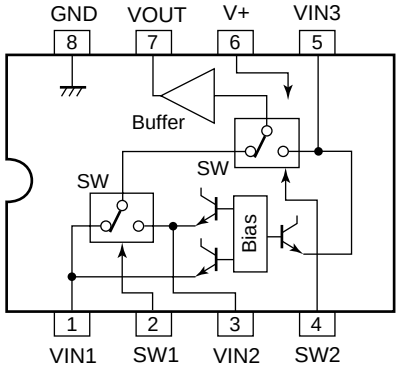
● Block Diagram




## ■ NJM2535M (IC7504: SVIDEO ASSY) (IC7802: VIDEO ASSY)

### ● 3-input Signal Video Switch

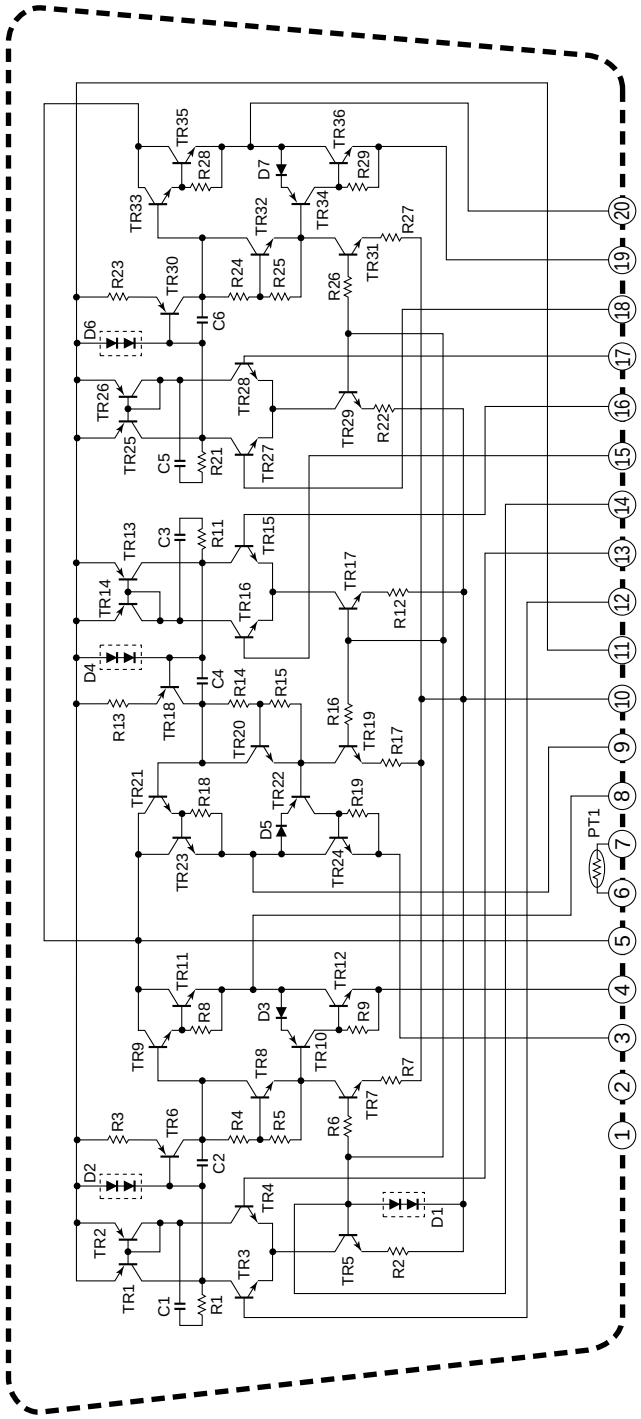
● Block Diagram




## ■ STK407-240 (IC3402: AMP ASSY)

### ● 3-channel AF Power Amplifier

● Block Diagram

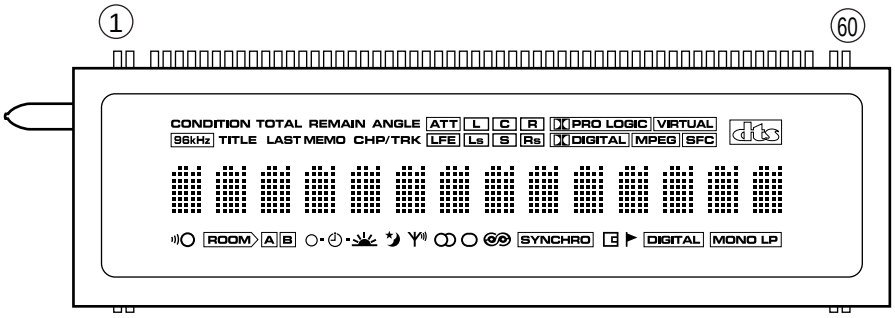


## 7.1.2 DISPLAY

## ■ AAV7061 (V8601: FLDP ASSY)

## ● FL Tube

● Pin Assignment

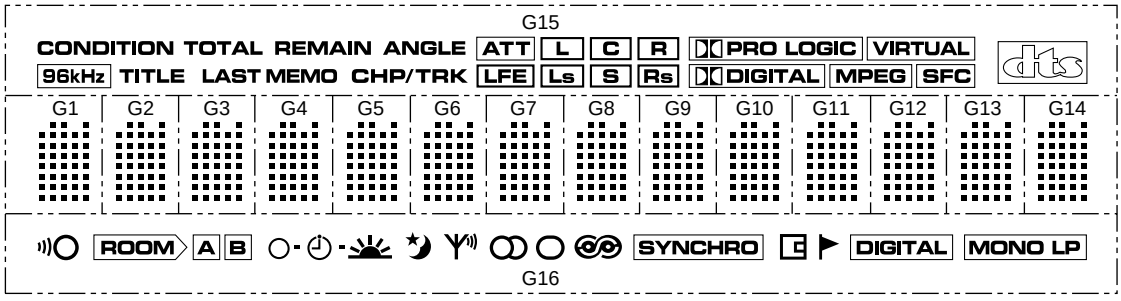


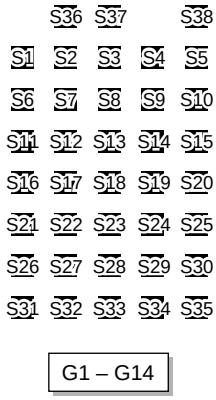

● Pin Connection

Note) F1, F2: Filament G1 to G11: Grid
S1 to S38: Anode NP: No pin

| Pin No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Assignment | NL | F1 | NP | G8 | G7 | G6 | G5 | G4 | G3 | G2 | G1 | S1 | S2 | S3 | S4 | S5 | S6 | S7 | S8 | S9 | S10 | S11 | S12 | S13 | S14 | S15 | S16 | S17 | S18 | S19 |
| Pin No. | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| Assignment | S20 | S21 | S22 | S23 | S24 | S25 | S26 | S27 | S28 | S29 | S30 | S31 | S32 | S33 | S34 | S35 | S36 | S37 | S38 | G16 | G15 | G14 | G13 | G12 | G11 | G10 | G9 | NP | F2 | NL |

● Anode and Grid Assignment (1/2)


G15
CONDITION TOTAL REMAIN ANGLE ATT L C R PRO LOGIC VIRTUAL
96kHz TITLE LAST MEMO CHP/TRK LFE Ls S Rs DIGITAL MPEG SFC
dts
G1 G2 G3 G4 G5 G6 G7 G8 G9 G10 G11 G12 G13 G14
ROOM A B
SYNCHRO
DIGITAL
MONO LP
G16




● Anode and Grid Assignment (2/2)

| | G1 – G14 | G15 | G16 |
|---|---|---|---|
| S1 | S1 | | |
| S2 | S2 | | |
| S3 | S3 | | |
| S4 | S4 | | |
| S5 | S5 | | |
| S6 | S6 | | |
| S7 | S7 | | |
| S8 | S8 | | |
| S9 | S9 | 96kHz | |
| S10 | S10 | TITLE | |
| S11 | S11 | CONDITION | |
| S12 | S12 | ANGLE | |
| S13 | S13 | LAST MEMO | |
| S14 | S14 | TOTAL | |
| S15 | S15 | REMAIN | |
| S16 | S16 | CHP/TRK | MONO LP |
| S17 | S17 | | DIGITAL |
| S18 | S18 | | ▶ |
| S19 | S19 | | |

| | G1 – G14 | G15 | G16 |
|---|---|---|---|
| S20 | S20 | ATT | |
| S21 | S21 | LFE | ROOM A B |
| S22 | S22 | (LFE) | |
| S23 | S23 | L | B |
| S24 | S24 | Ls | A |
| S25 | S25 | C | ROOM |
| S26 | S26 | S | SYNCHRO |
| S27 | S27 | R | |
| S28 | S28 | Rs | |
| S29 | S29 | DIGITAL | |
| S30 | S30 | MPEG | |
| S31 | S31 | DSP | |
| S32 | S32 | dts | |
| S33 | S33 | VIRTUAL | |
| S34 | S34 | PRO LOGIC | |
| S35 | S35 | | |
| S36 | S36 | | |
| S37 | S37 | | |
| S38 | S38 | | |

# 7.2 DIAGNOSIS

## 7.2.1 FAIL-SAFE

## ■ DVD Center Unit (HTZ-C7)

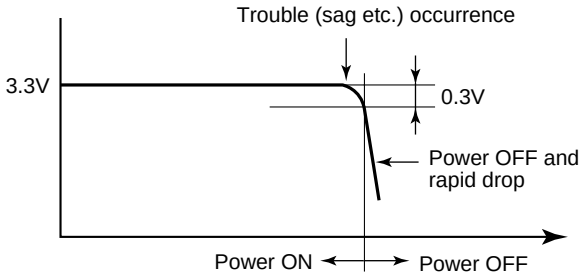
### 1. System Reset after Detection

■ Check of the power supply line (3.3 V line) (AD3: Pin 32)

Fail-safe for prevention of crashing of the DVD microcomputer (system controller) with occurrence of power supply ripples. (ADC read value for the power supply voltage of the player section at the time of power ON)
System reset is applied when the threshold value is not reached six times in a row during power ON.

● Operation explanation

The power supplied to the DVD assembly is composed of the three types +12 V, +5 V, and +3.3 V, and of these, the 3.3 V system is detected at all times.
In the following diagram, dropping of the +3.3 V system to 3 V or less because of power supply trouble is detected, and the power supply is switched off.




3.3 V system Trouble Detection

■ Check of the power supply line (5 V line) (AD6: Pin 35)

Fail-safe at the time of disconnection from the power outlet. As the power for the AV controller is supplied from the powered subwoofer section, this kind of fail-safe becomes necessary. A system reset is applied when the ADC read value for the power supply voltage of the DVD center unit twice in a row drops below the threshold value.

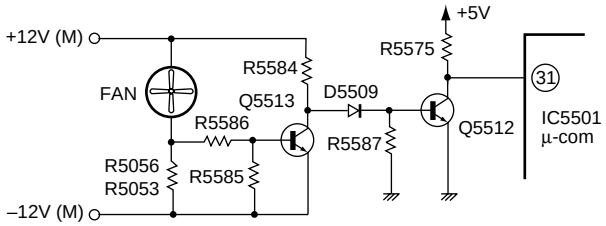
■ Cooling fan trouble detection (AD2: Pin 31)

When the cooling fan stops to run because of a defect, entry of foreign matter, etc. and energization is continued, there is the possibility of burning, so that a circuit for detection of this condition is included. A system reset is applied when the ADC read value for the cooling fan operation detection port twice in a row drops below the threshold value.

● Operation explanation

When the fan is operating in the fan detection circuit, a current flows, so that a potential difference occurs at R5056 and Q5515 becomes ON. In this case, the anode potential of D5509 is – (minus), so that the potential becomes a reverse maximum voltage and D5509 does not open. Accordingly, Q5512 is OFF and pin ③ of the microcomputer reaches high level. When the fan rotation stops, Q5513 becomes OFF and the potential at C becomes +. Then D5509 becomes ON, and as the result, Q5512 becomes ON.
Then pin ㉛ of the microcomputer becomes low level.

The microcomputer at all times monitors pin ㉛, and when this becomes low level, forced entry into standby mode is performed and the power supply of the set is switched off.




Fan Detection Circuit

■ Communication error with the DVD system controller

A system reset is applied when serial communication with the DVD system controller fails 32 times in a row.

### 2. Stop Mode after Detection (The appearance is a simple system reset.)

■ Check of the AV control power supply line (5.6 [V] line) from the powered subwoofer unit (AD1: Pin 30)

When the power supply for the AV controller drops off, the AV controller enters stop mode and memory backup is performed.
When the ADC read value for the power supply voltage twice in a row drops below the threshold value, stop mode (power saving mode) is entered and the memory contents are backed up.

## ■ Powered subwoofer (HTZ-SW7)

### 1. Power OFF after Detection

■ DVD center display communication interruption

Power OFF is performed when the REQ edge of the DVD center display communication is interrupted for 1.5 sec. (The count value of the internal 1 ms timer is used for the judgment.)

■ Overcurrent detection

Power OFF is performed when the overcurrent detection port (always “H” while the power is ON) becomes “L”. (Judgment is performed once with the main loop.)

■ Abnormal temperature detection

An abnormal temperature is judged to exist when one of the abnormal temperature detection ports (A/D input, 2 ports) becomes 4.3 V or higher, and then the power is switched off. (Judgment is performed once with the main loop.)

■ Overvoltage detection

An overvoltage is judged to exist when the overvoltage detection port (A/D input port) drops to 3.5 V or less, and then the power is switched off. (Judgment is performed once with the main loop.)

### 2. System Reset after Detection

■ Abnormal AC pulse

When the AC pulses have been interrupted for 2 pulses, reset start is performed. (Judgment is performed once with the main loop.)

## 7.2.2 SINGLE UNIT OPERATION METHODS

### ■ Single unit operation method for the DVD center unit (HTZ-C7)

For the items (2) and (3) of the following three items, there are two methods.

(1) Supply of +5.6 V

This is always required, as it is the power supply for the microcomputer. Please supply this from an external power supply.

(2) Supply of +12 V

This is for operation of the relay for supply of the AC of the DVD center unit.

(2-1) Please supply this from an external power supply. (Fig. 1)

(2-2) Substitution is possible by directly short-circuiting the relay. (Fig. 2)

(3) IR supply

This is for supply of IR. This is not required for servicing only with the keys of the main unit.

(3-1) Please connect the “remote control light reception jig GGF1270”. (Please supply +5 V from the external power supply of the above item (1). (Fig. 1)

(3-2) Substitution is possible by wired input from “equipment with SR-OUT” to “SR-OUT” of the DVD center unit. (This is “SR-OUT”, but the circuit also functions as “SR-IN”. For normal SR operation, GND of AUDIO or VIDEO must be connected.)

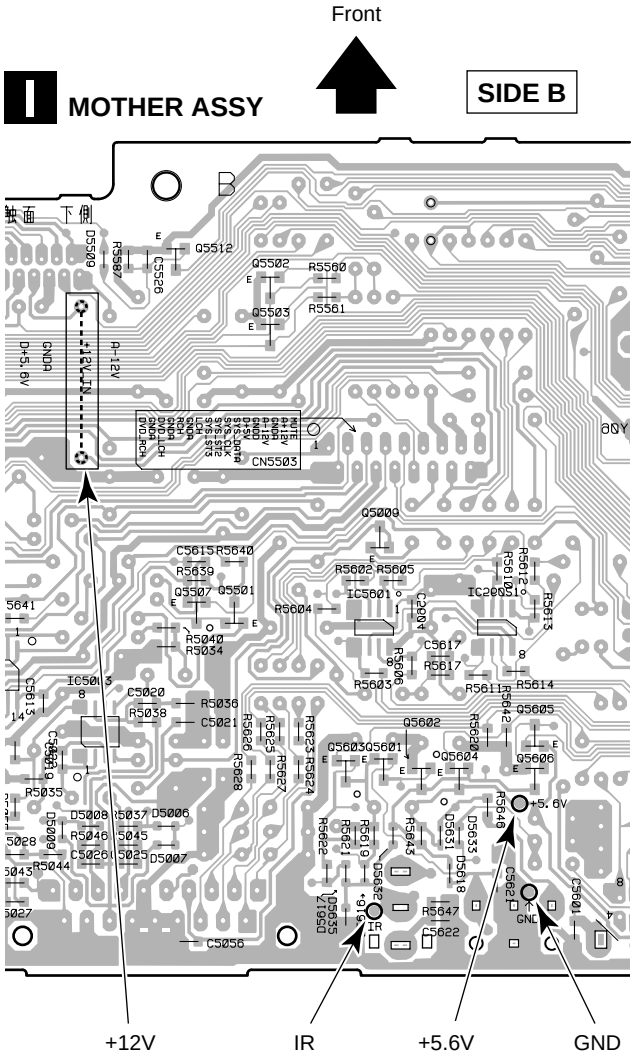



Fig. 1 MOTHER Assy (seen from the solder side)

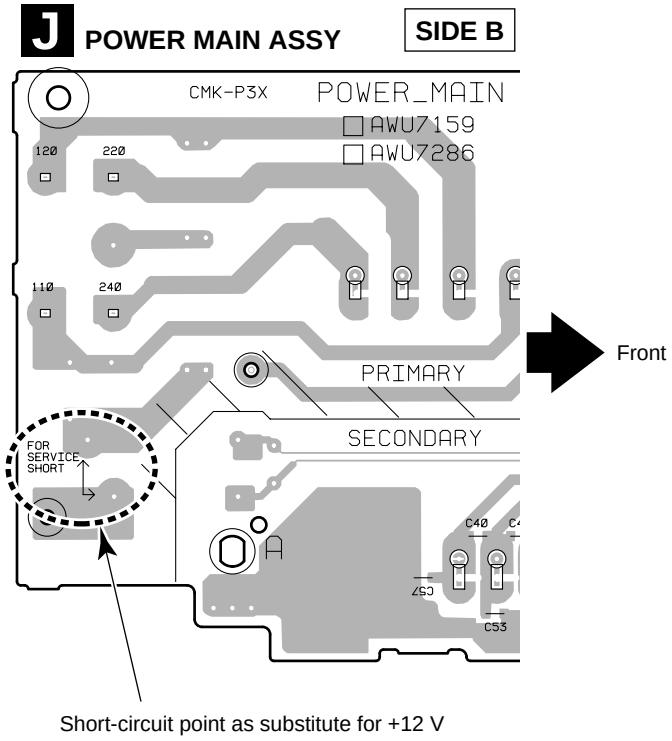



Fig. 2 POWER MAIN Assy (seen from the solder side)

## ■ Single unit operation of the powered subwoofer unit (HTZ-SW7)

### (1) When the display unit is connected

When the display unit is connected, there are no other special connections.
The display unit has a remote control light receiver.

### (2) When the display unit is not connected

When the display unit is not connected, the “remote control light reception jig GGF1270” must be connected. Please connect it to the point shown in Fig. 3.

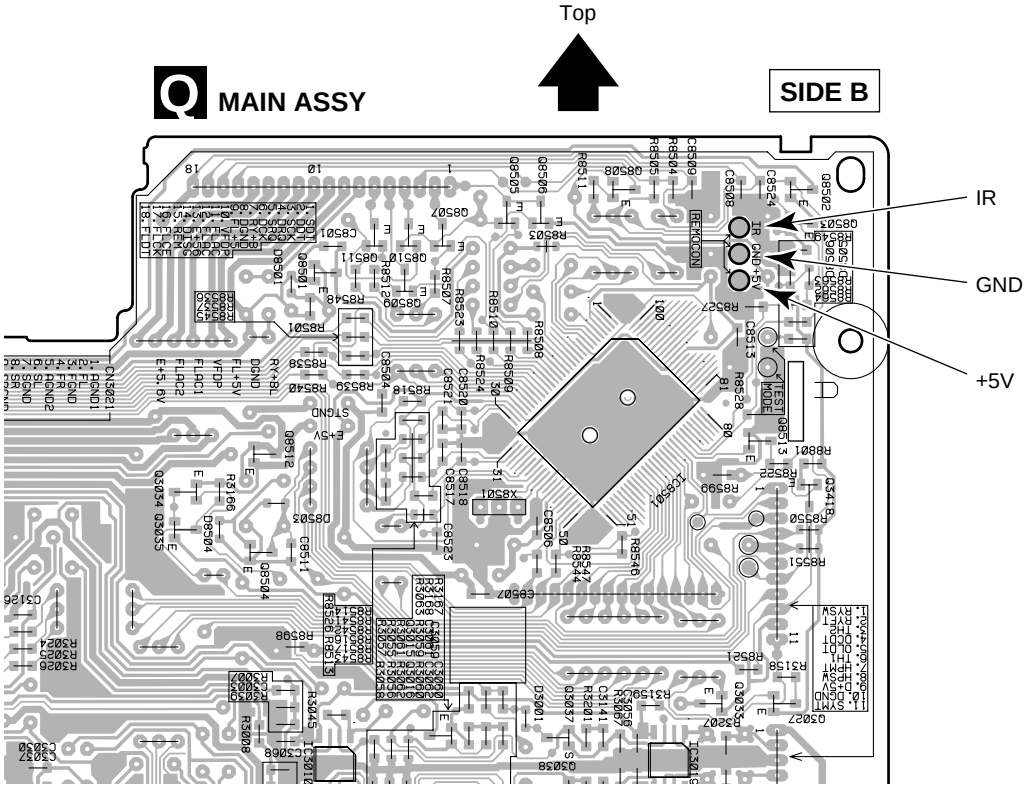



Fig. 3 Main assembly (seen from the solder side)

**Cautions for making service connections**

When power is to be supplied from an external power supply and when the relay is to be short-circuited forcibly, always disconnect the system cable between the DVD center unit and the subwoofer to prevent equipment breakage.
When the DVD center unit and the subwoofer both are present at the time of servicing, servicing in normal mode (user used condition) is recommended except for DVD test mode. (Test modes other than the DVD test mode are not supported when both units are connected.)

## 7.2.3 DISASSEMBLY

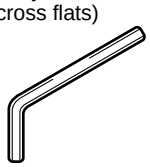
### ■ DVD Center Unit (HTZ-C7)

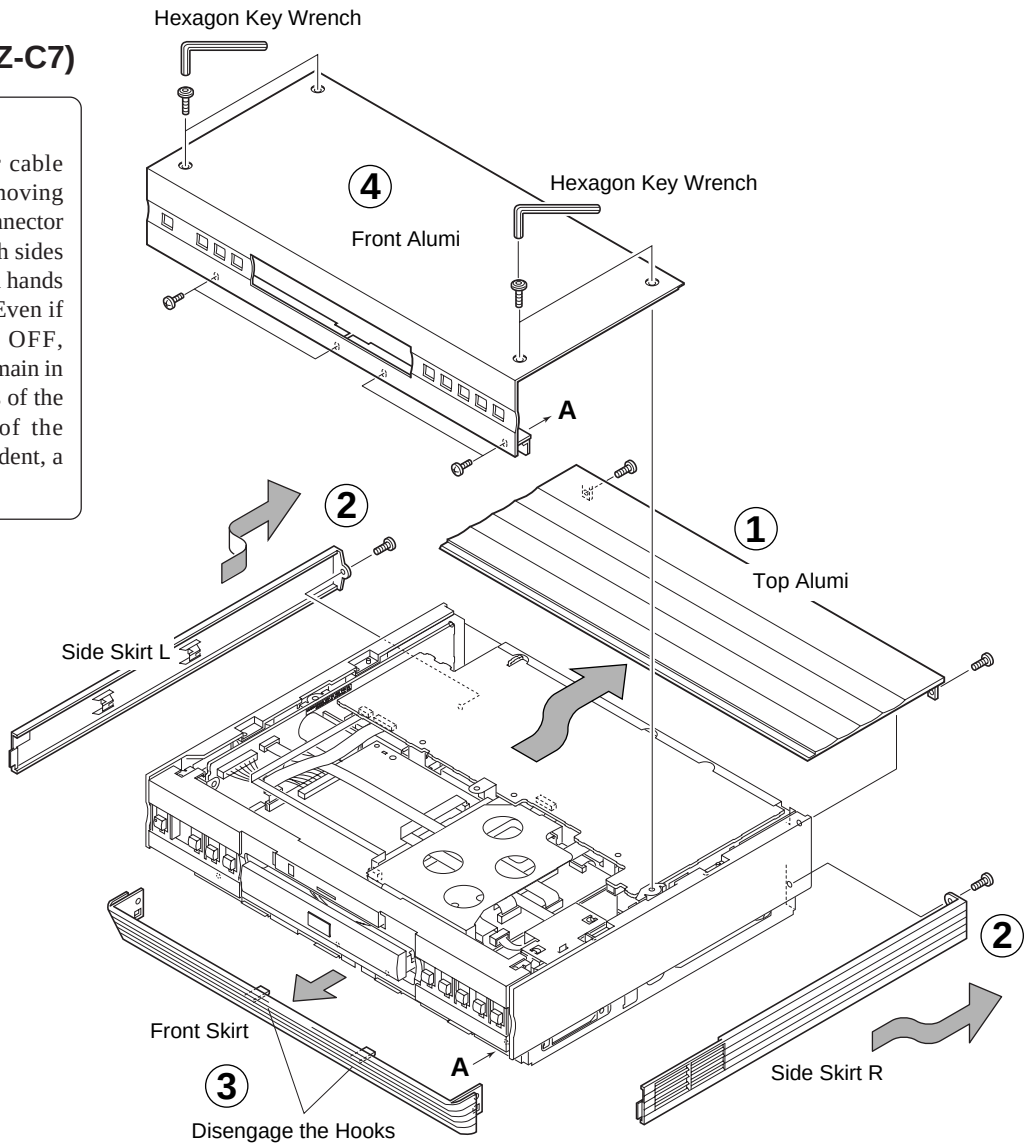
<< PRECAUTIONS >>

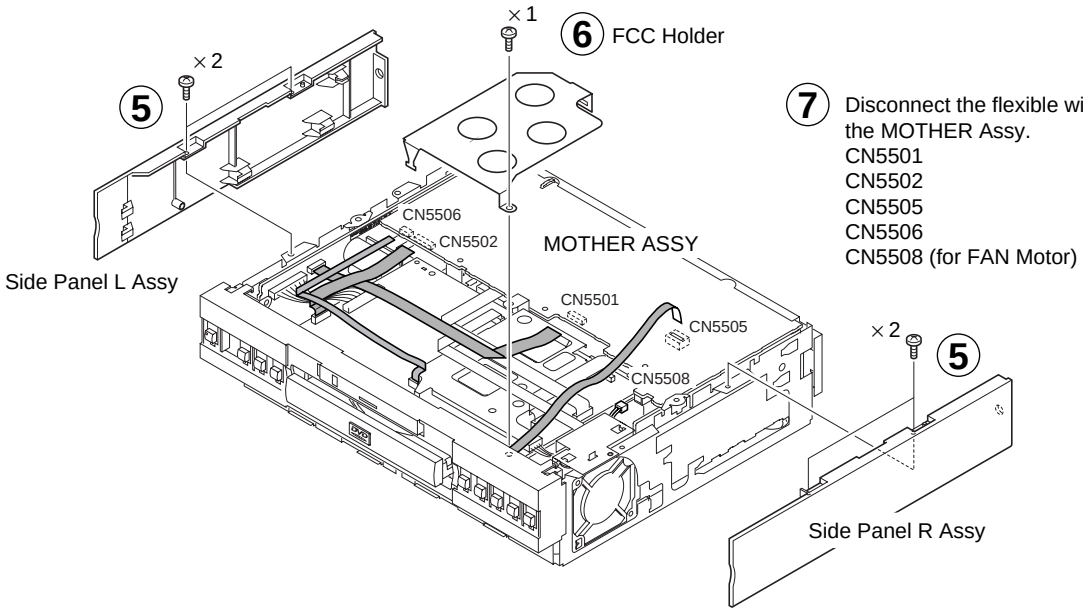
Be sure to disconnect the power cable from the AC outlet whenever removing the card flexible cable from the connector for maintenance, etc. Hold the both sides of the card flexible cable with both hands to disconnect the cable straight. (Even if the power has been switched OFF, previously charged voltage may remain in the capacitor, etc. If the electrodes of the card flexible cable and those of the connector come in contact by accident, a malfunction may occur.)

Special tools to be prepared

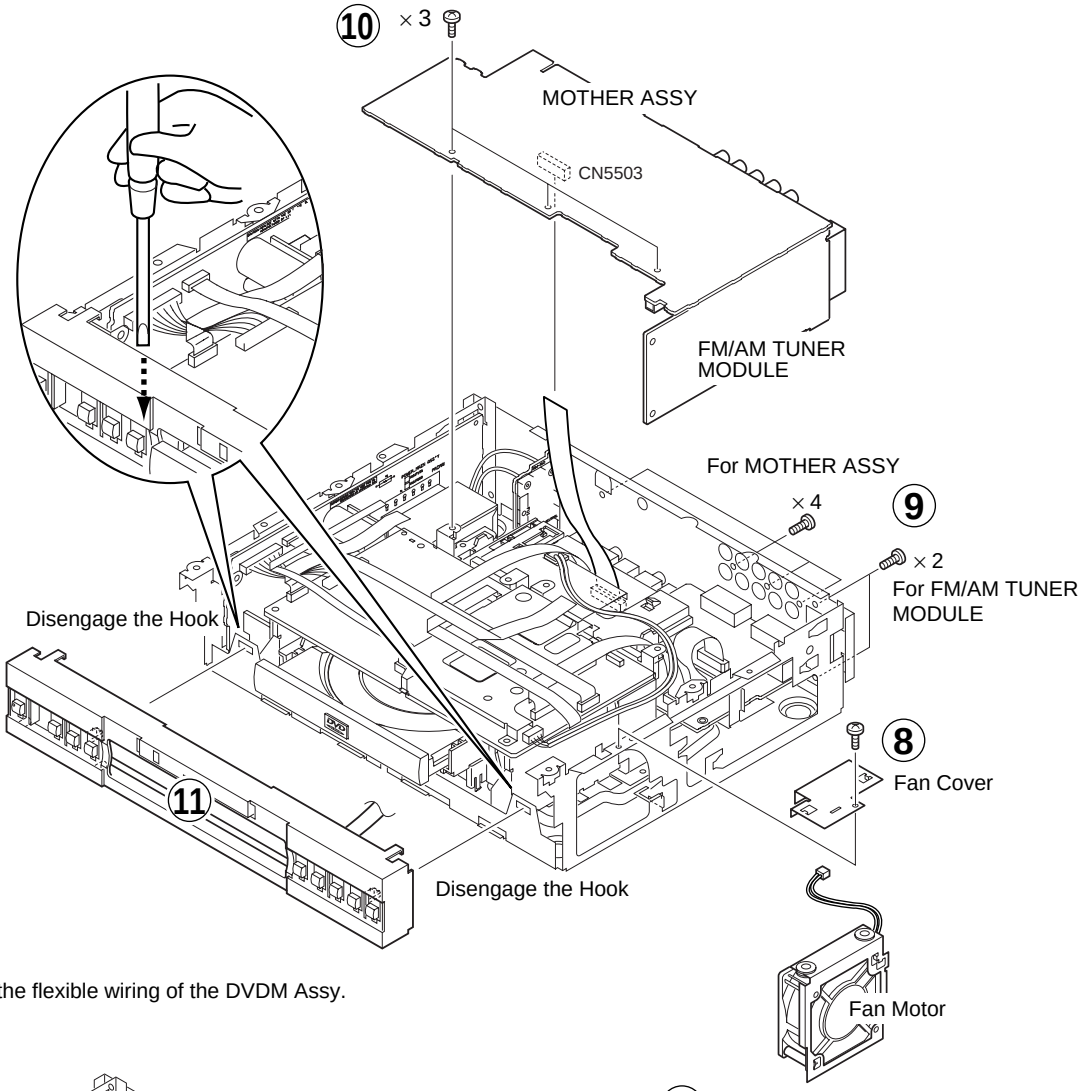
Hexagon key wrench
(2 mm across flats)



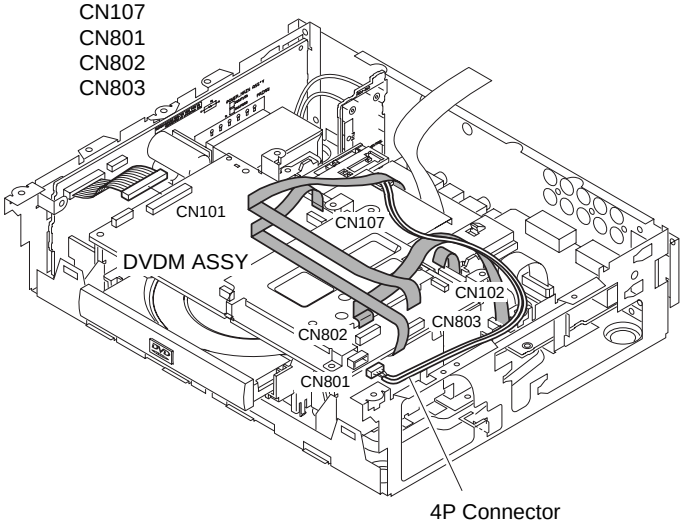


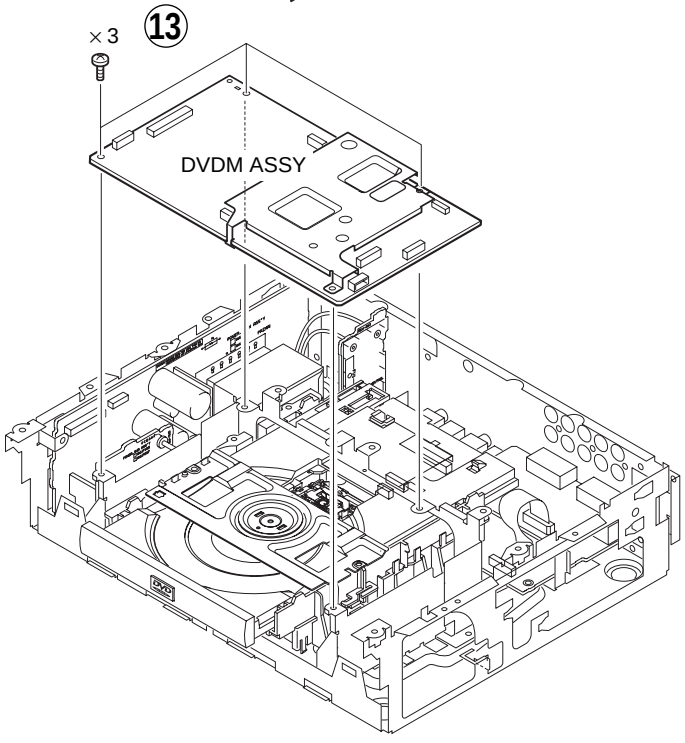



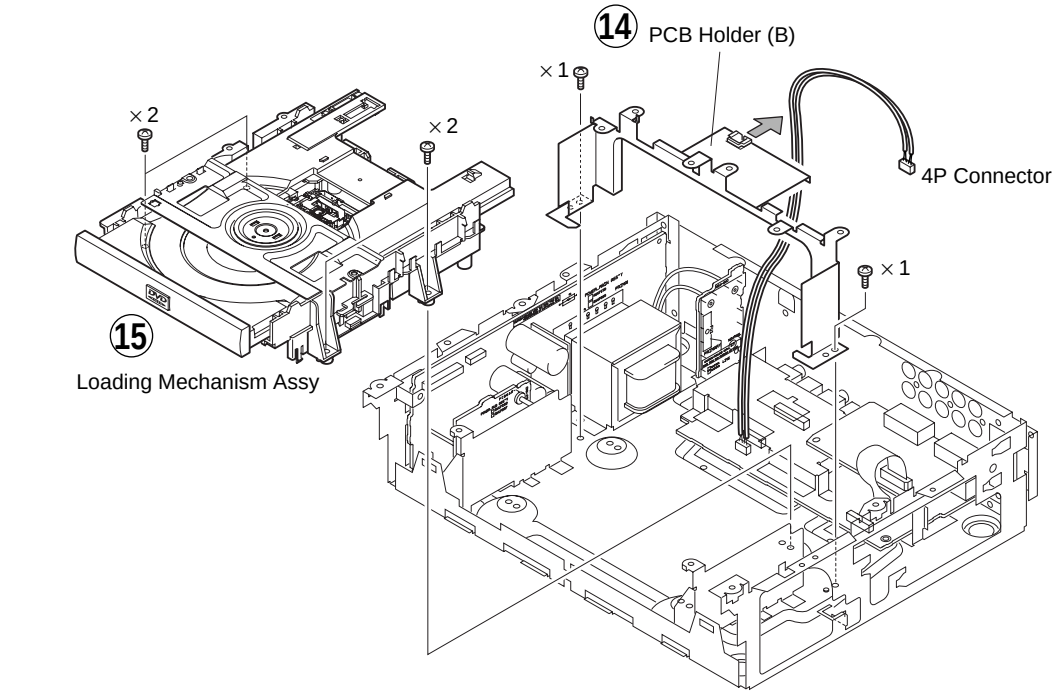

7 Disconnect the flexible wiring of the MOTHER Assy.
CN5501
CN5502
CN5505
CN5506
CN5508 (for FAN Motor)

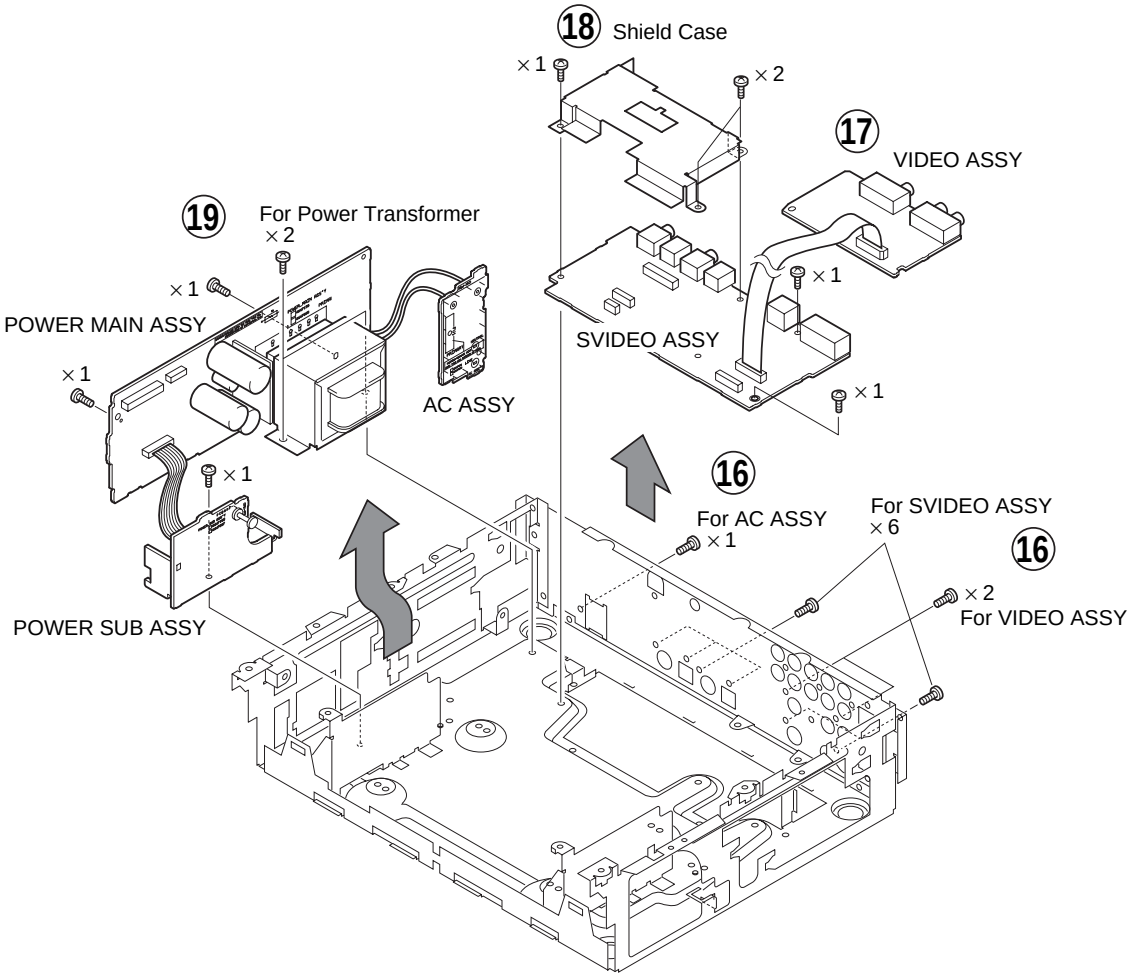



12 Disconnect the flexible wiring of the DVDM Assy.
CN101
CN102
CN107
CN801
CN802
CN803



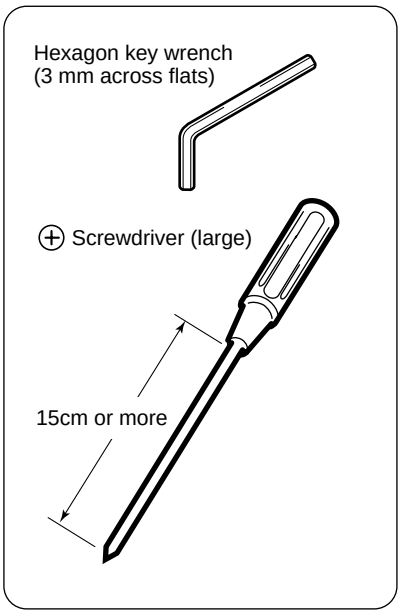



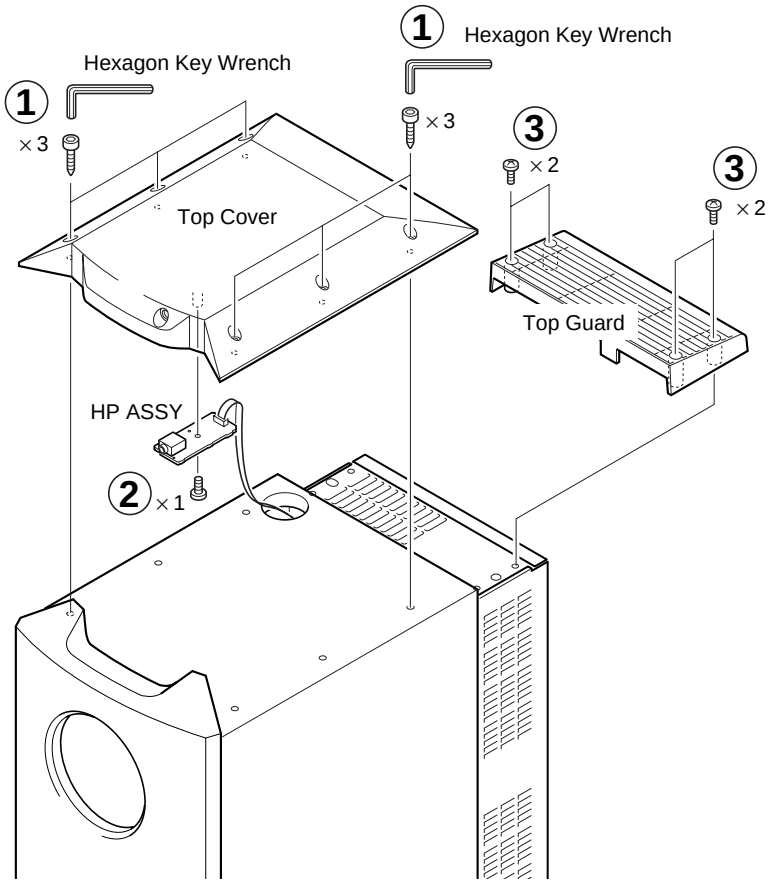

14 PCB Holder (B)
× 1
× 2
× 2
4P Connector
× 1
15
Loading Mechanism Assy

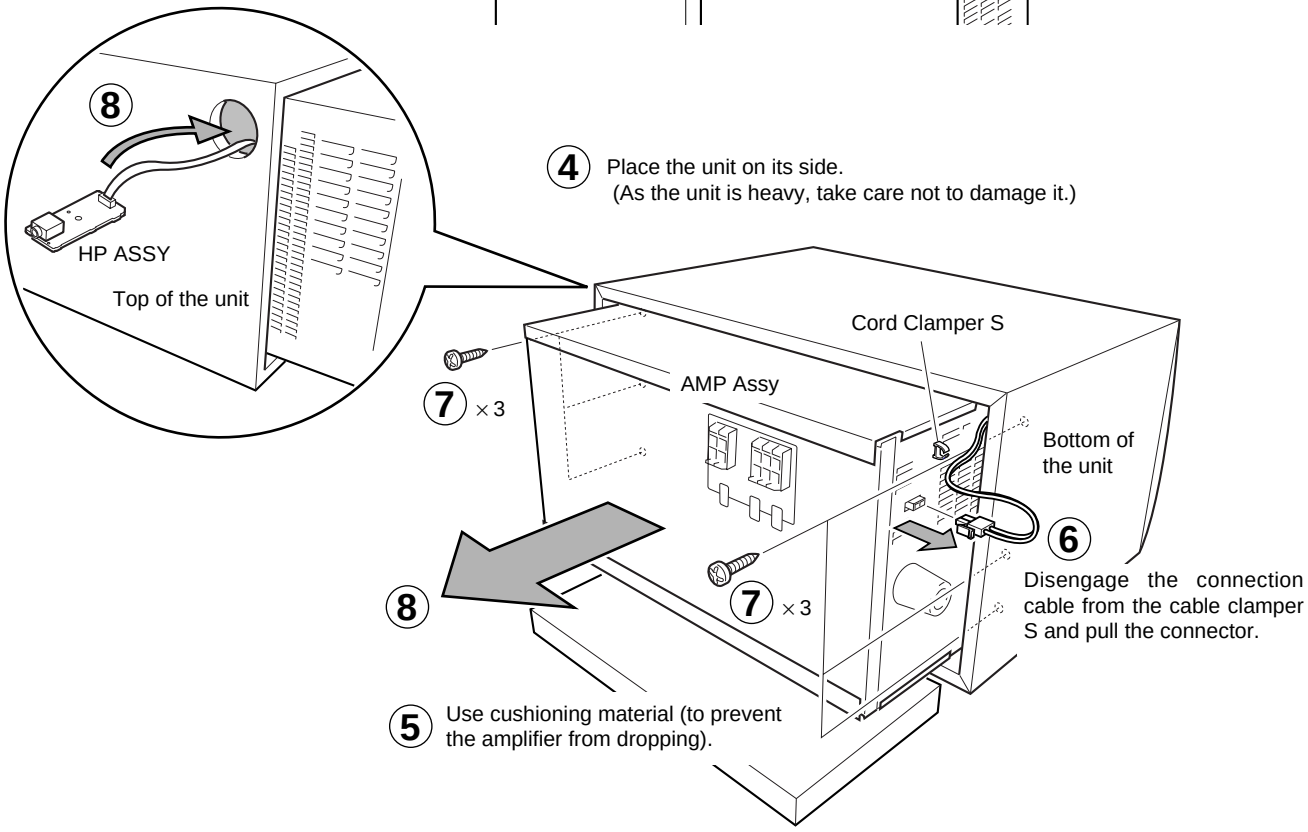

18 Shield Case
× 1
× 2
17
VIDEO ASSY
19
For Power Transformer
× 2
× 1
POWER MAIN ASSY
× 1
AC ASSY
SVIDEO ASSY
× 1
× 1
16
For AC ASSY
× 1
For SVIDEO ASSY
× 6
16
× 2
For VIDEO ASSY
× 1
POWER SUB ASSY

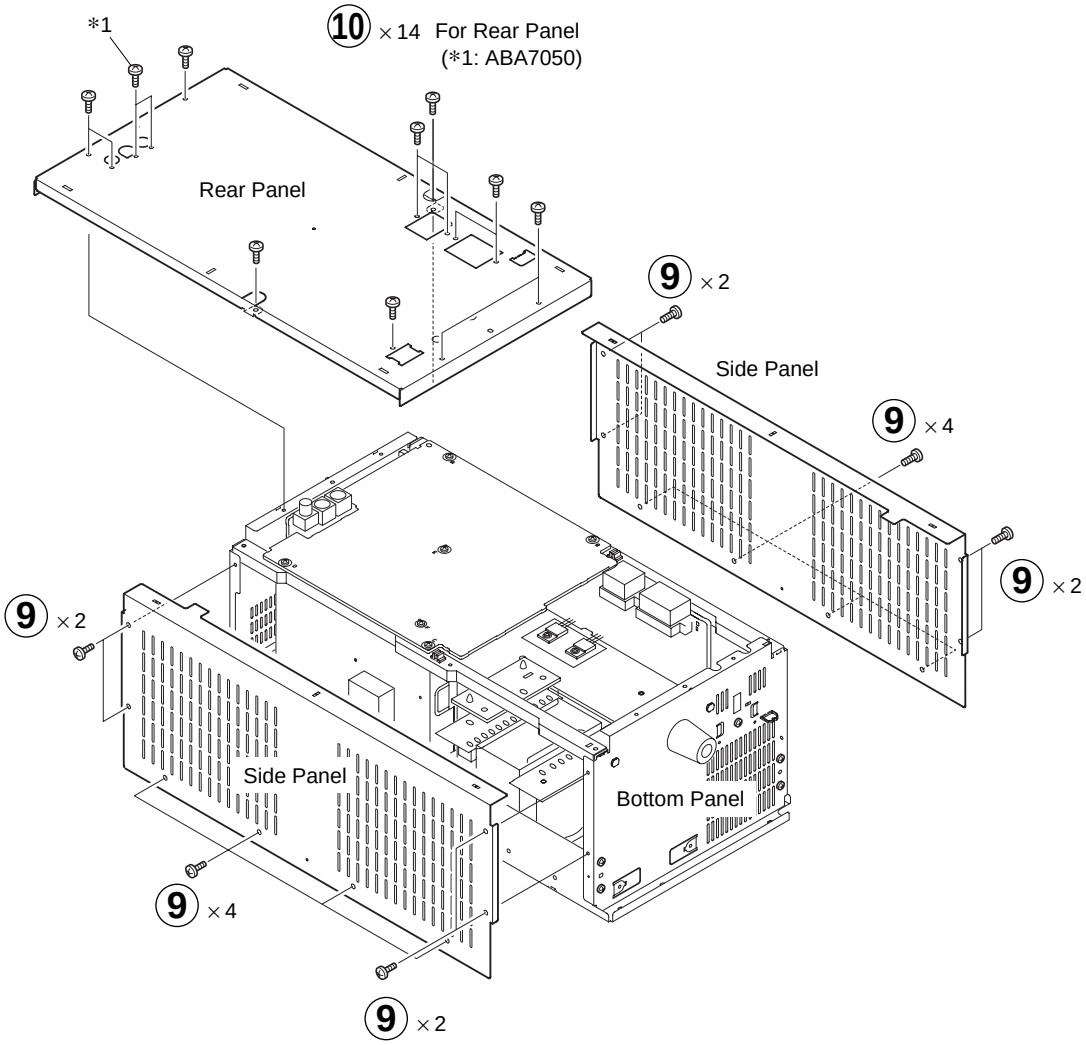
## ■ Powered Subwoofer (HTZ-SW7)

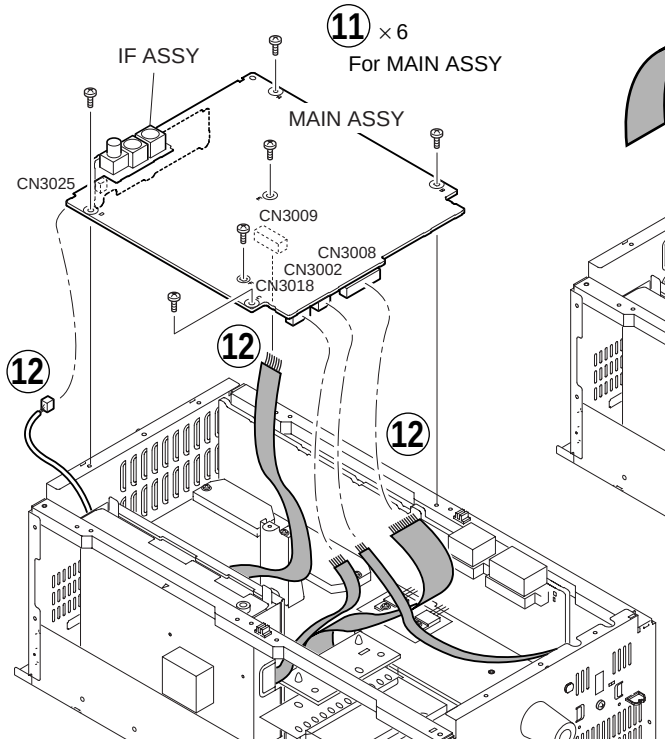
Special tools to be prepared

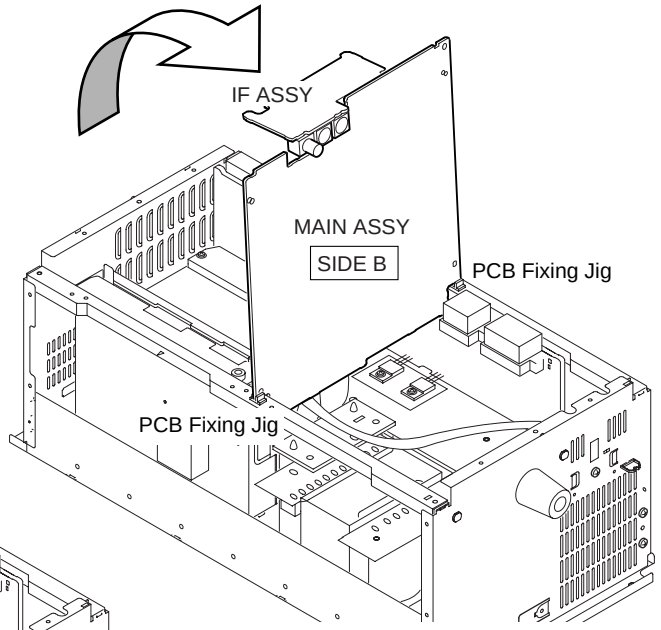


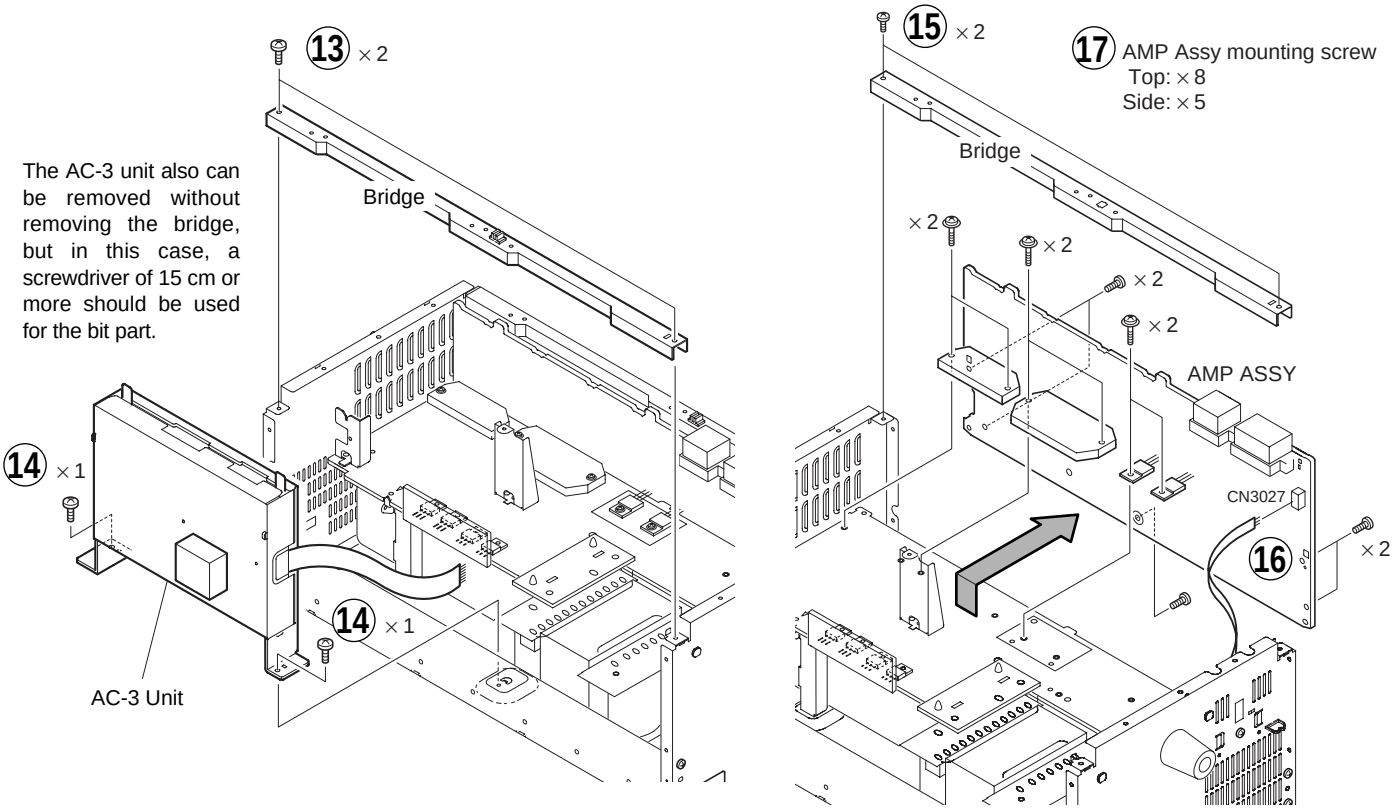


8
HP ASSY
Top of the unit
4 Place the unit on its side.
(As the unit is heavy, take care not to damage it.)
Cord Clamper S
AMP Assy
7 ×3
Bottom of
the unit
6
Disengage the connection cable from the cable clamper S and pull the connector.
8
7 ×3
5 Use cushioning material (to prevent the amplifier from dropping).




Before disconnecting the connector, insert the MAIN assy into the PCB fixing jig, so that the parts on the PCB can be exchanged.




## 7.2.4 TEST MODE

### ■ DVD Center Unit (HTZ-C7)

#### 1. Entry into test mode

Perform power ON after short-circuiting the "TEST MODE" pin of the MOTHER assy during power OFF or transmit "ESC+TEST" with the test mode remote control unit (GGF1067).
The power will be switched on and AV controller test mode will be entered. The standby LED of the main unit flashes during AV controller test mode. (Refer to Fig. 1.)

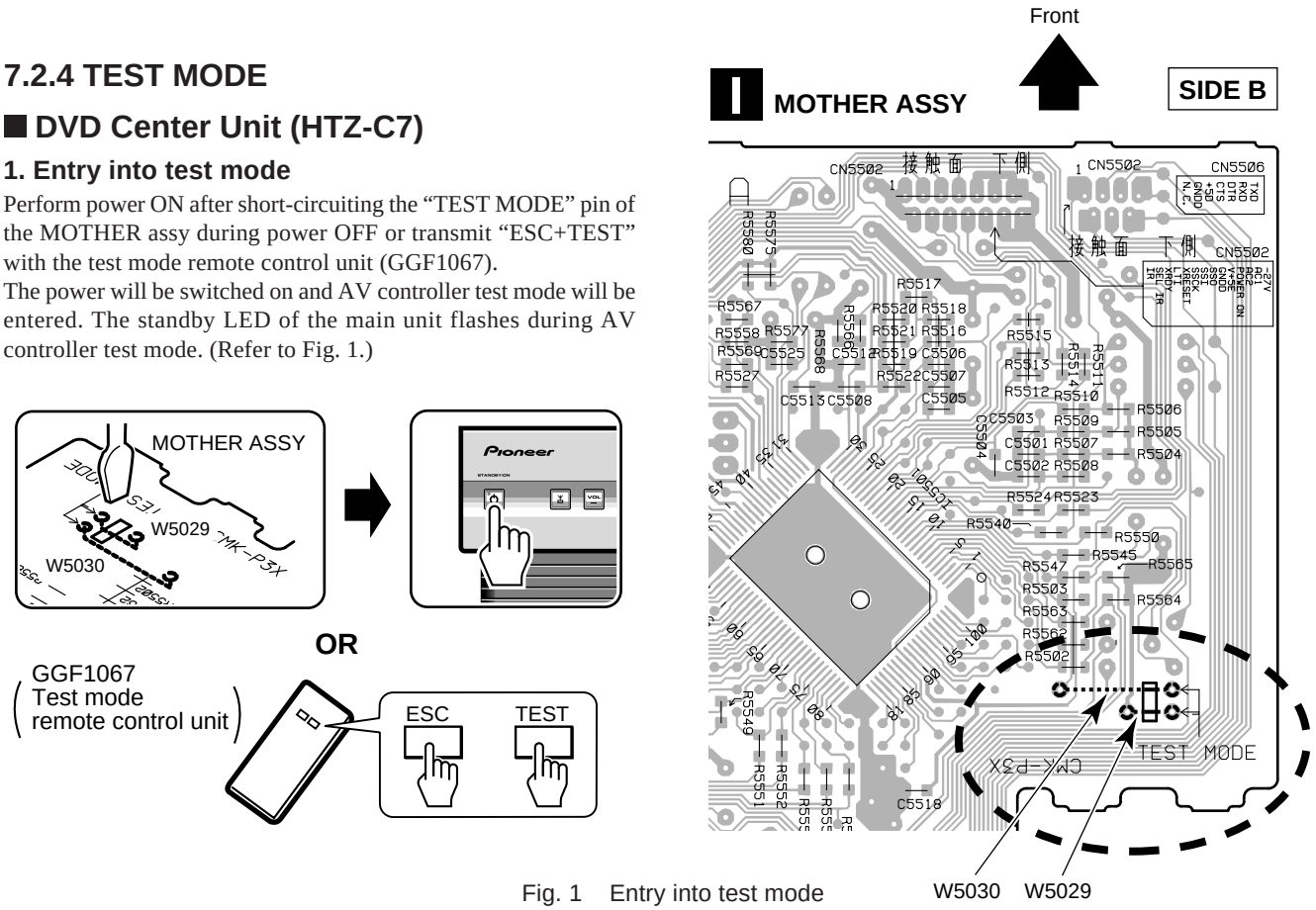



Fig. 1 Entry into test mode

## 2. Special Operations during Test Mode

### ■ Special operations during test mode

During AV controller test mode, the DVD player section can be operated with the single unit DVD remote control (component code $A3), which normally does not function. Also, when "ESC + TEST" is transmitted during AV controller test mode with the LD servicing test remote control, DVD test mode will be entered.
The operation is equivalent to the operation for the single unit player DV-505. Power OFF is performed when "ESC" is transmitted with the LD servicing test remote control during DVD test mode.

### ■ Function switching during test mode

As this unit has no function keys on the unit body, "VOL +" and "VOL –" on the unit body are used for function switching during AV controller test mode.

### ■ Switching of DVD, tuner, MD, audio 1, and audio 2

The DVD function is active at the time of test mode ON. When "VOL +" on the unit body is pressed, the function can be switched in the sequence of DVD → tuner → MD → audio 1→ audio 2.
When "VOL –" on the unit body is pressed, the function can be switched in the sequence of audio 2 → audio 1 → MD → tuner → DVD. Here, several seconds may be required for switching from DVD to tuner, tuner to DVD, tuner to MD, and MD to tuner. As key input is not accepted during switching, the function switching key should be pressed slowly and with slightly longer intervals. As there is no function indication, provide video or audio input and confirm that the function has been switched.

### ■ Automatic presetting of tuner and station memory

The contents of the station memory preset automatically when entering into test mode are shown below.

| | |
|---|---|
| ST1, FM | 88.5 MHz |
| ST2, FM | 89.5 MHz |
| ST3, AM | 954 kHz |
| ST4, AM | 1062 kHz |
| ST5, FM | 88.0 MHz |

### ■ DVD remote operation

The DVD player operates with the single unit DVD remote control (component code $A3). In the same way as at the time of normal operation, "ESC + TEST" from the LD service remote control can be used to enter into the same test mode as with the single unit DVD player. In this case, power OFF will occur with the next reception of "ESC".

Note 1
DVD → TUNER → MD → AUDIO1 → AUDIO2 → .....
At the time of the above switching, several seconds are required to switch from DVD to TUNER. When "VOL +/–" is switched during this time, the function will not be switched. Please wait several seconds before switching.

Notes 2

● How to select "VIDEO1 ANALOG"
AUDIO2 – (VOL+) → VIDEO1 ANALOG

● How to select "VIDEO1 DIGITAL"
(Switch once to VIDEO2 and then use VOL- to return to VIDEO1.)
AUDIO2 – (VOL+) → VIDEO1 ANALOG – (VOL+) → VIDEO1 ANALOG – (VOL+) → VIDEO2 ANALOG – (VOL-) → VIDEO1 DIGITAL

● How to select "VIDEO2 ANALOG"
AUDIO2 – (VOL+) → VIDEO1 ANALOG – (VOL+) → VIDEO1 ANALOG – (VOL+) → VIDEO2 ANALOG

● How to select "VIDEO2 DIGITAL"
(Perform power OFF/ON after setting to the second of VIDEO2. At the time of power ON, "ESC+TEST" must be used to enter into test mode.)
AUDIO2 – (VOL+) → VIDEO1 ANALOG – (VOL+) → VIDEO1 ANALOG – (VOL+) → VIDEO2 ANALOG – (VOL+) → VIDEO2 ANALOG

When this setting has been made, VIDEO2 DIGITAL will be obtained by power OFF with the POWER button and power ON in test mode by "ESC+TEST".

● Switching between video 1 and video 2
Audio analog input and digital input for video 1 and 2 can be switched with "VOL +" and "VOL –" on the main unit and power ON/OFF.

● How to select video 1 analog audio input
Press "VOL +" on the main unit once at the time of audio 2 selection.

● How to select video 1 digital audio input
Press "VOL +" on the main unit three times at the time of audio 2 selection.

● How to select video 2 analog audio input
Press "VOL +" on the main unit three times at the time of audio 2 selection.

● How to select video 2 digital audio input
At the time of audio 2 selection, press "VOL +" on the main unit four times, use the POWER switch on the main unit for power OFF (power OFF can be confirmed by the standby LED on the main unit changing from flashing to steady lighting), and transmit "ESC+TEST" from the test mode remote control for LD servicing for power ON in AV controller test mode, to switch to video 2 digital audio input. Video 2 analog audio input is selected at the time of power OFF.)

## ■ Powered Subwoofer (HTZ-SW7)

### 1. Test Mode Use Conditions

Use of the test mode with connected DVD center unit is not possible. In that case, do not use test mode, but normal operation.

#### ■ When there is a display unit

When there is a display unit, use is possible simply by connection to an outlet.

#### ■ When there is no display unit

The remote control light reception jig (GGF1270) must be connected. Display at the time of operation is not possible.

### 2. How to enter into test mode

With connection to an outlet and a display unit (or the remote control light reception jig), the power will be switched on and SF controller test mode will be entered when "ESC+TEST" is transmitted from the test mode remote control for LD servicing.

#### ■ Display during test mode

After power ON, all FL are lit. Afterwards, TEST MODE is displayed except at the time of operation. The display at the time of operation is the same as during normal operation.

#### ■ How to leave test mode

When "ESC" is transmitted from the test mode remote control for LD servicing (GGF1067), the power is switched off. The same effect can be obtained when the plug is pulled from the outlet.

### ■ Initial values of the set values for each mode and their adjustment ranges

Shown in Fig. 2.

| Function | Initial Value | Adjustment Range |
|---|---|---|
| VOLUME | 0 | 0 to 35 |
| BASS | 0 | –6 to +6 |
| TREBLE | 0 | –6 to +6 |
| FRONT L LEVEL | 0 | –10dB to +10dB |
| FRONT R LEVEL | 0 | –10dB to +10dB |
| REAR L LEVEL | 0 | –10dB to +10dB |
| REAR R LEVEL | 0 | –10dB to +10dB |
| SUB WOOFER LEVEL | 0 | –10dB to +10dB |
| CENTER LEVEL | 0 | –10dB to +10dB |
| REAR L DELAY | 0 | 0, 5, 10, 15 ms (15, 20, 25, 30 ms with Prologic) |
| REAR R DELAY | 0 | 0, 5, 10, 15 ms (15, 20, 25, 30 ms with Prologic) |
| CENTER DELAY | 0 | 0, 1, 2, 3, 4, 5 ms |
| MIDNIGHT | OFF | ON/OFF |
| DSP MODE | OFF | GAME, SPORT, MUSIC, MOVIE |
| ONE-TOUCH SURROUND | CENTER | FRONT +2 to REAR +2 |
| DOLBY PRO-LOGIC | OFF | ON/OFF |

Fig. 2 Initial Values for Each Mode
(Setting to the above initial values has been done at the time of power ON.)

### ■ Operation during test mode

During test mode, all operations can be performed with the test remote control for LD servicing (GGF1067). The operation is shown in Fig. 3.

## ■ Key layout diagram for the servicing remote control unit (GGF1067)

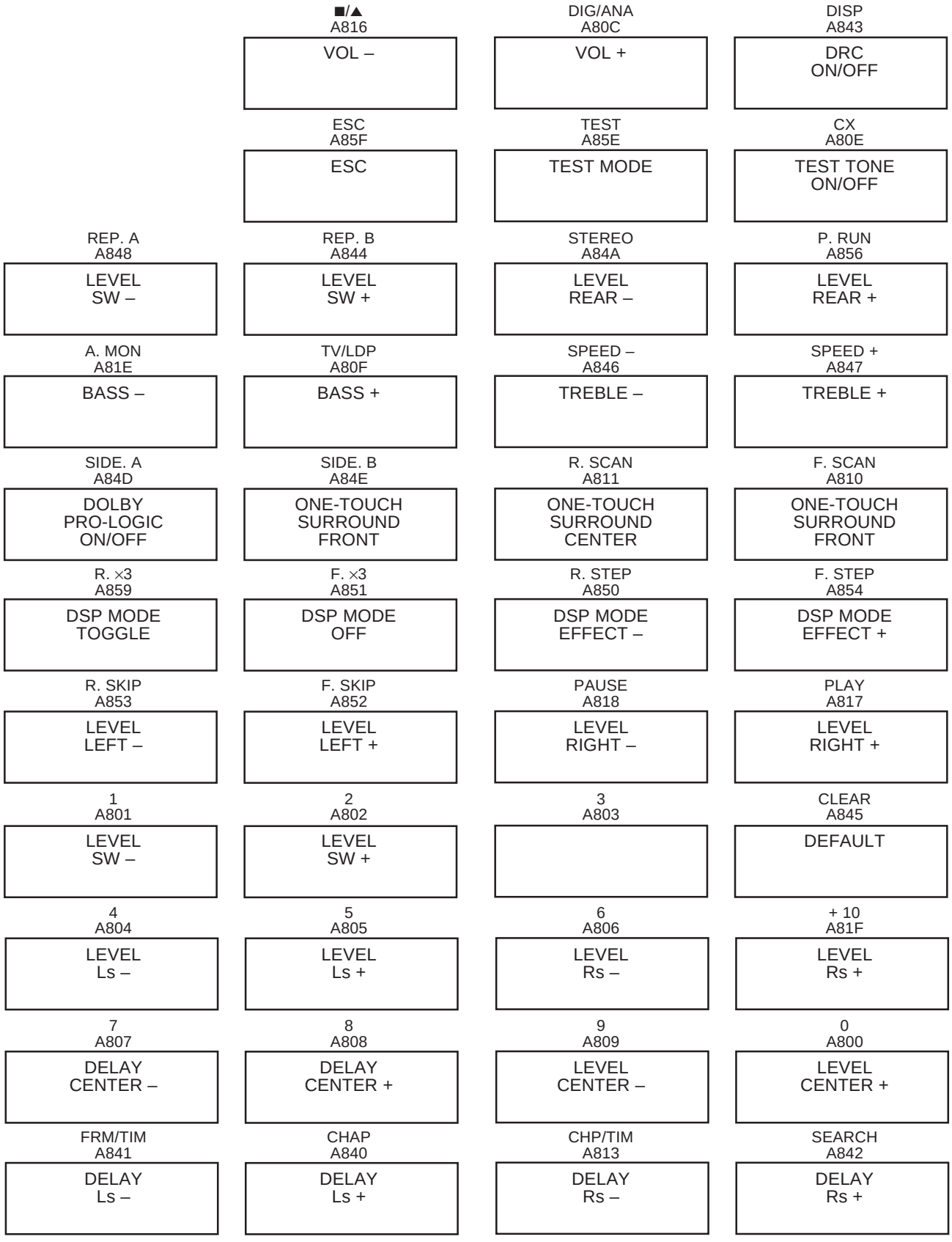
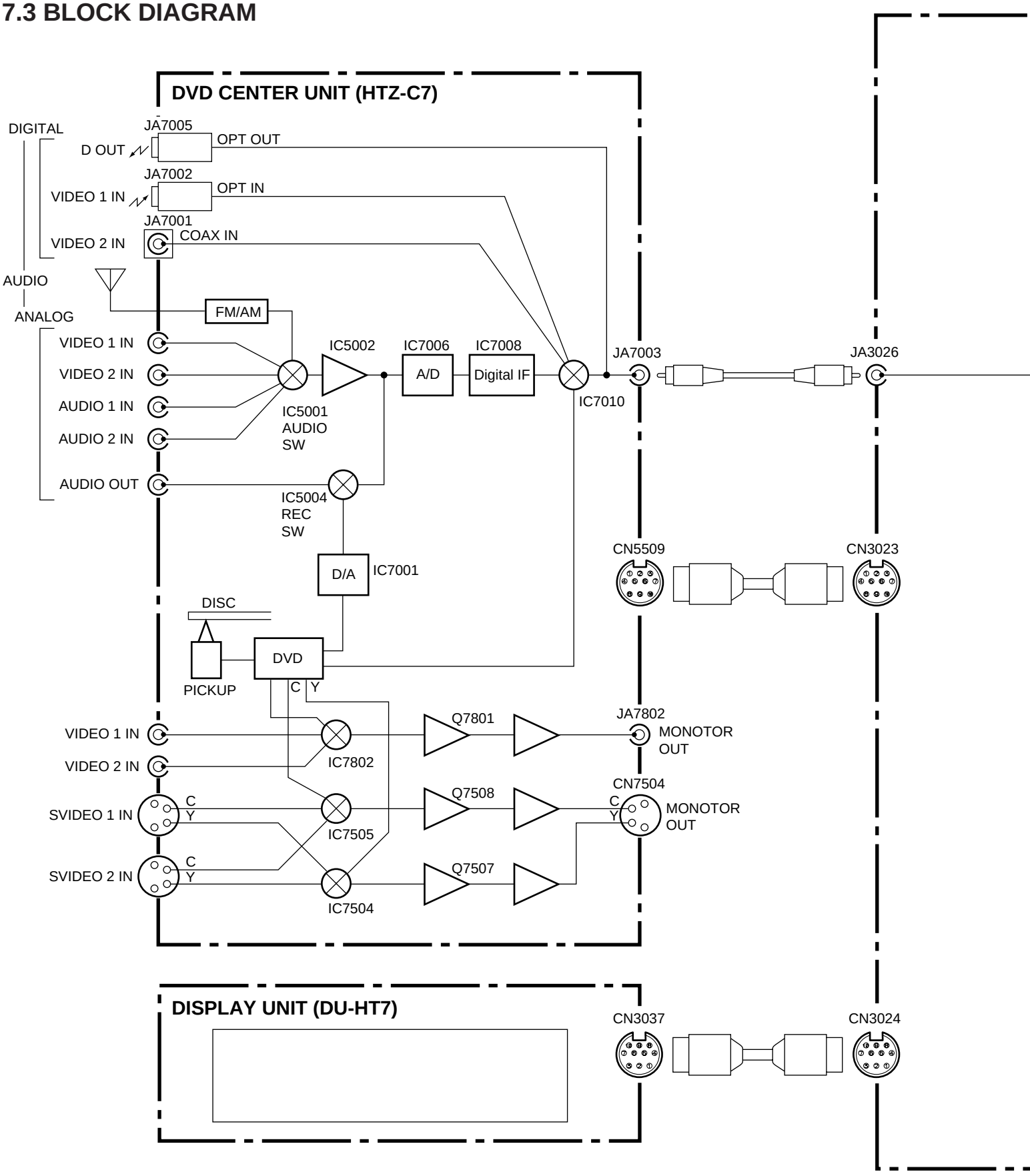
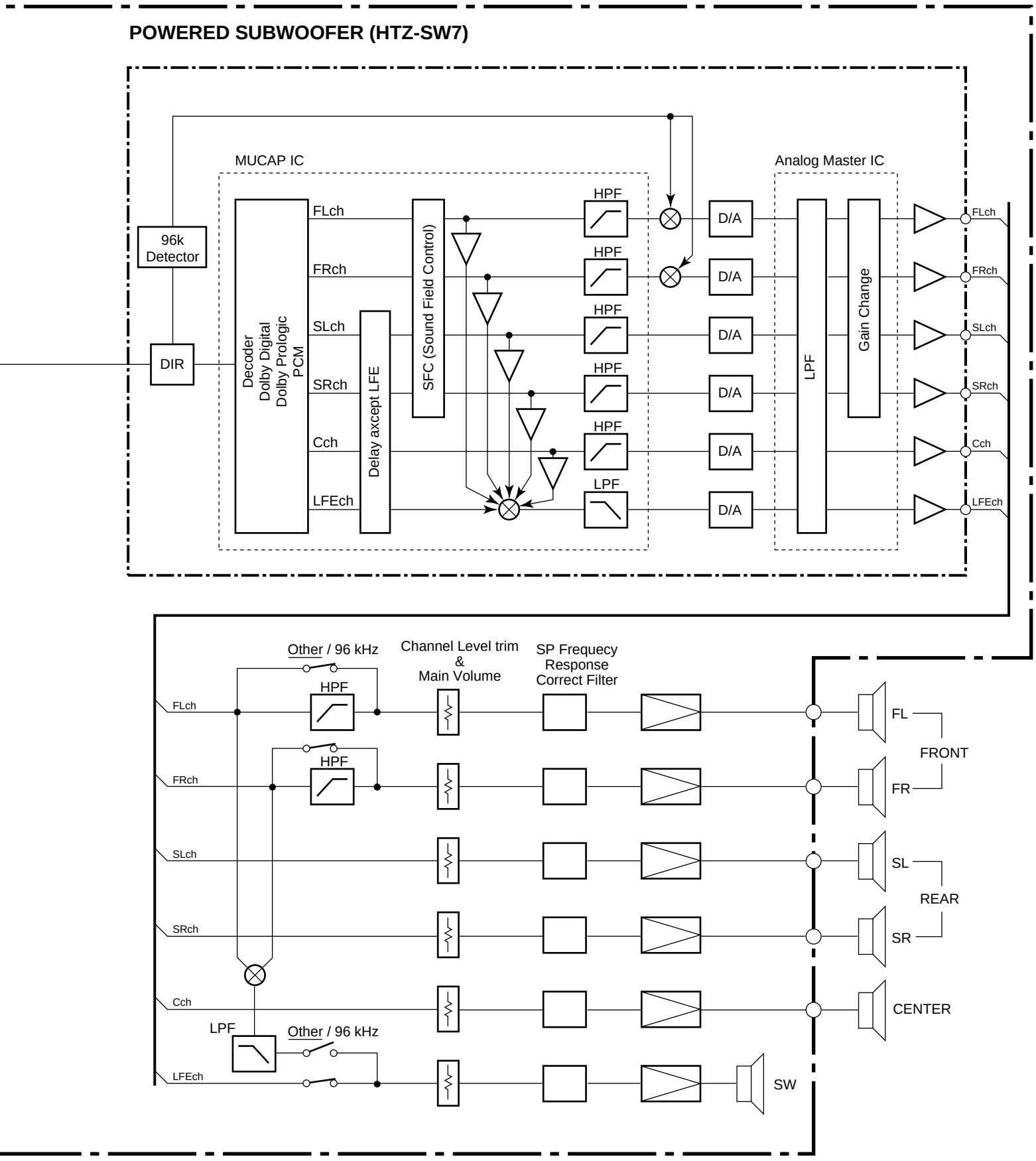



Fig. 3 Operation method for the powered subwoofer of the LD test mode remote control unit
(Drawn up according to the key layout for the test mode remote control unit for LD servicing)

## 7.3 BLOCK DIAGRAM

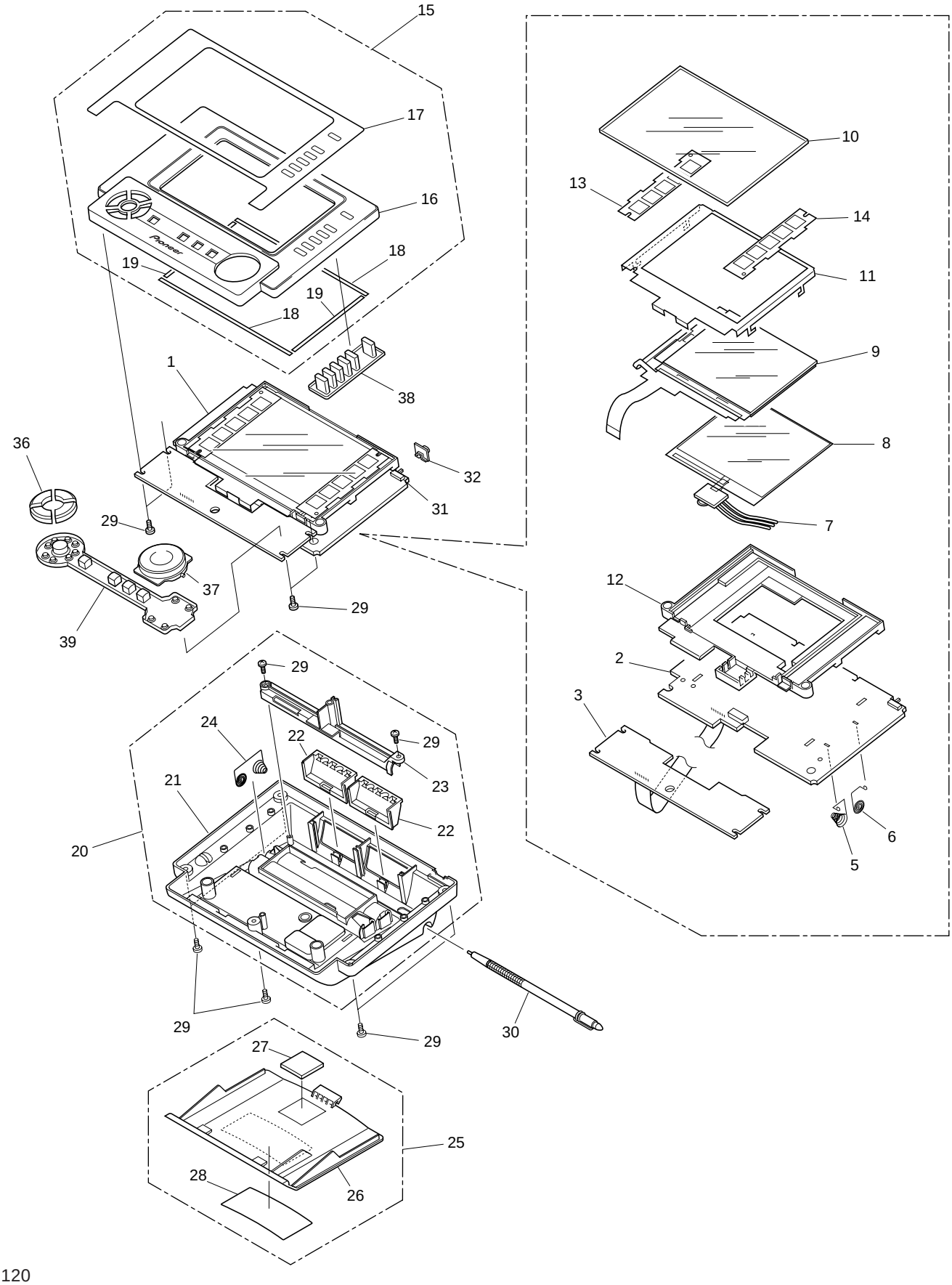


## POWERED SUBWOOFER (HTZ-SW7)



# 7.4 REMOTE CONTROL UNIT [CU-HT004 (AXD7189) ]

## 7.4.1 EXPLODED VIEWS AND PARTS LIST

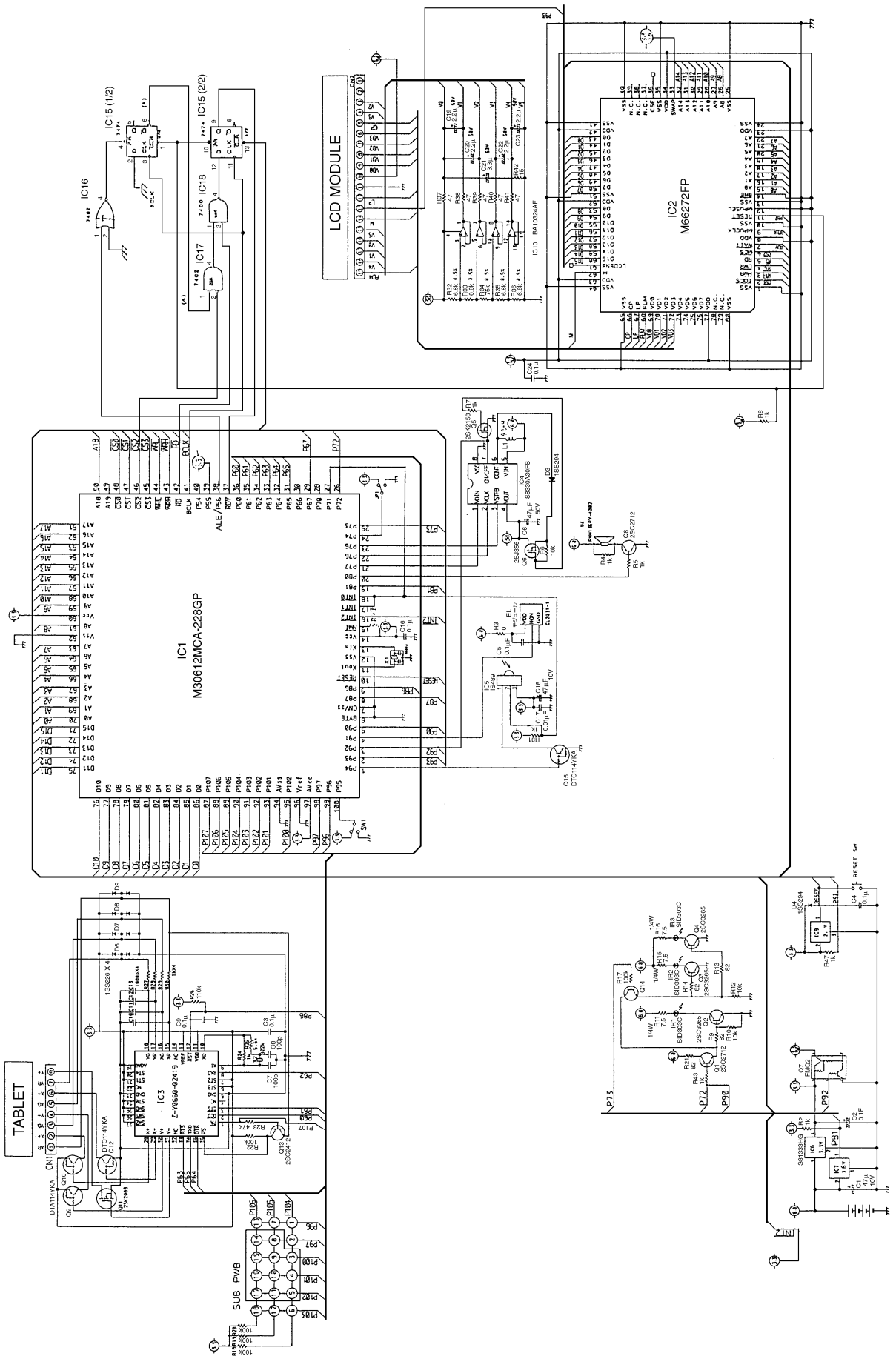


*NOTES :* ● *Parts marked by* " NSP " *are generally unavailable because they are not in our Master Spare Parts List.*
● *The* ⚠ *mark found on some component parts indicates the importance of the safety factor of the part. Therefore, when replacing, be sure to use parts of identical designation.*
● *Screw adjacent to* ▼ *mark on the product are used for disassembly.*

## ■ REMOTE CONTROL UNIT PARTS LIST

| Mark | No. | Description | Part No. |
|---|---|---|---|
| | 1 | PWB Assy | RRC4–7251–01 |
| | 2 | P. W. Board A | 401RRC19301R |
| | 3 | P. W. Board B | 401RRC19401R |
| | 4 | …… | |
| | 5 | Terminal A | 411RRC15801R |
| | 6 | Terminal B | 411RRC15901R |
| | 7 | Jumper Cable | E–AA1446–001 |
| | 8 | EL Module | E–AA1457–001 |
| | 9 | LCD Module | E–EC1026–001 |
| | 10 | Touch Panel | NTX01005701R |
| | 11 | Frame | 501RRC01901R |
| | 12 | LCD Holder | 501RRC01701R |
| | 13 | Seal A | 204RRC10301R |
| | 14 | Seal B | 204RRC10302R |
| | 15 | Upper Case Assy | RRC4–7251–02 |
| | 16 | Case A | 102RRC24301R |
| | 17 | Name Plate | 201RRC27001R |
| | 18 | Cushion A | 701RRC04801R |
| | 19 | Cushion B | 701RRC04901R |
| | 20 | Bottom Case Assy | RRC4–7251–03 |
| | 21 | Case B | 102RRC24401R |
| | 22 | Filter | 811RRC08001R |
| | 23 | Pen Holder | 501RRC01801R |
| | 24 | Terminal | 413RRC11201R |
| | 25 | Battery Cover Assy | RRC4–7251–04 |
| | 26 | Battery Cover | 103RRC14701R |
| | 27 | Cushion C | 701RRC03501R |
| | 28 | Label | 204RRC10603R |
| | 29 | Screw | ABA2005022#2 |
| | 30 | Touch Pen | E–AA1445–001 |
| | 31 | Slide Switch | JSB1220–0111 |
| | 32 | Slide Knob | 301RRC07801R |
| | 33 | …… | |
| | 34 | …… | |
| | 35 | …… | |
| | 36 | Key Top A | 302RRC09901R |
| | 37 | Key Top B | 302RRC10001R |
| | 38 | Rubber Sheet A | 421RRC20701R |
| | 39 | Rubber Sheet B | 421RRC20801R |

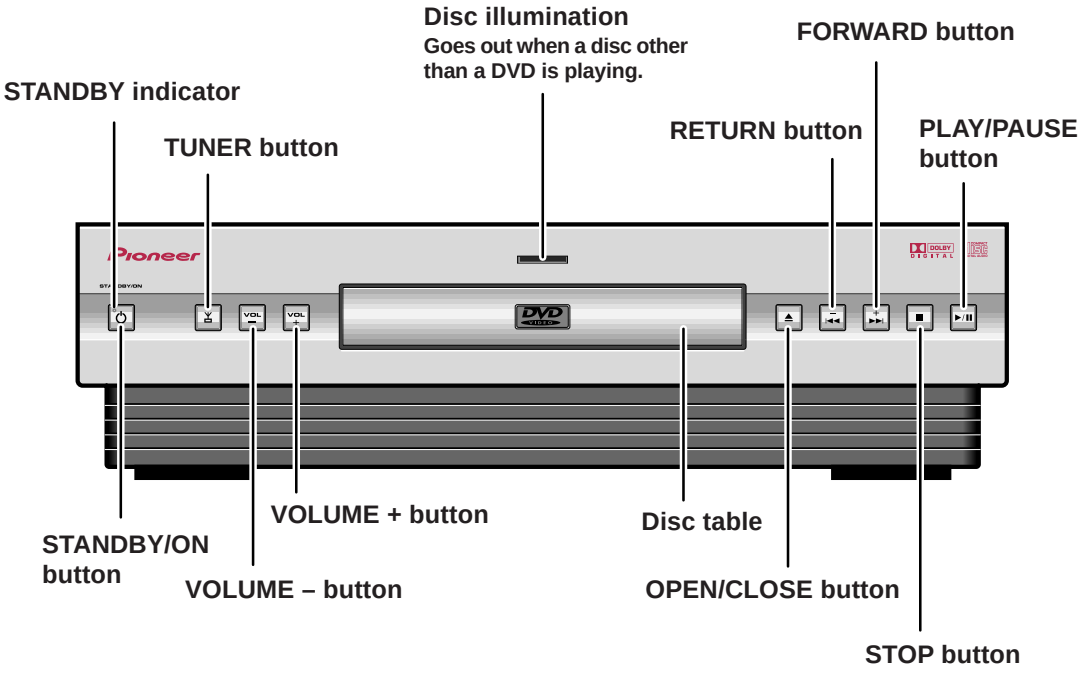
## 7.4.2 SCHEMATIC DIAGRAM (REFERENCE DOCUMENTATION)

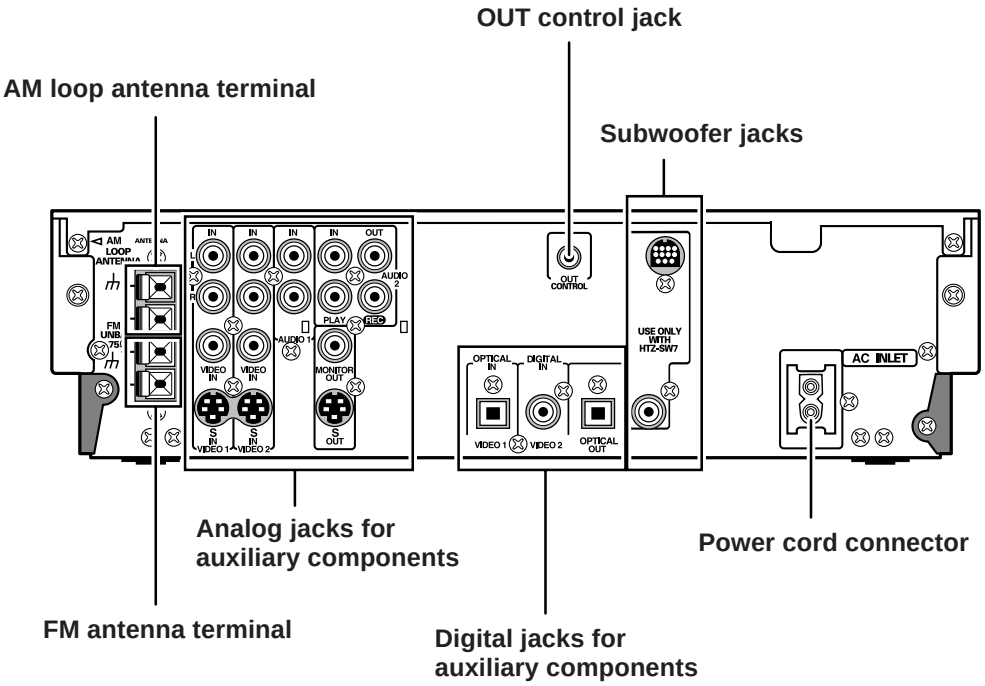


# 8. PANEL FACILITIES AND SPECIFICATIONS

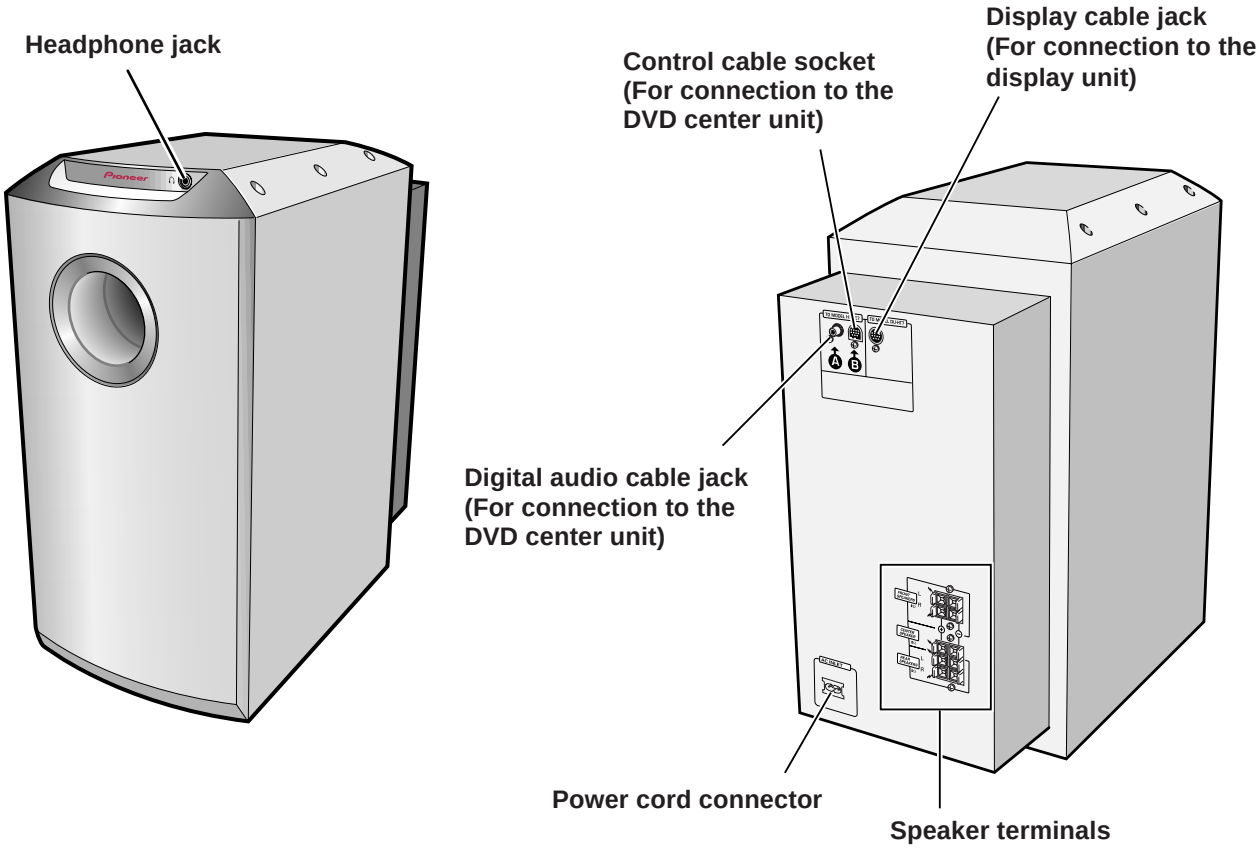
## ■ PANEL FACILITIES

### ■ DVD Center Unit (HTZ-C7)

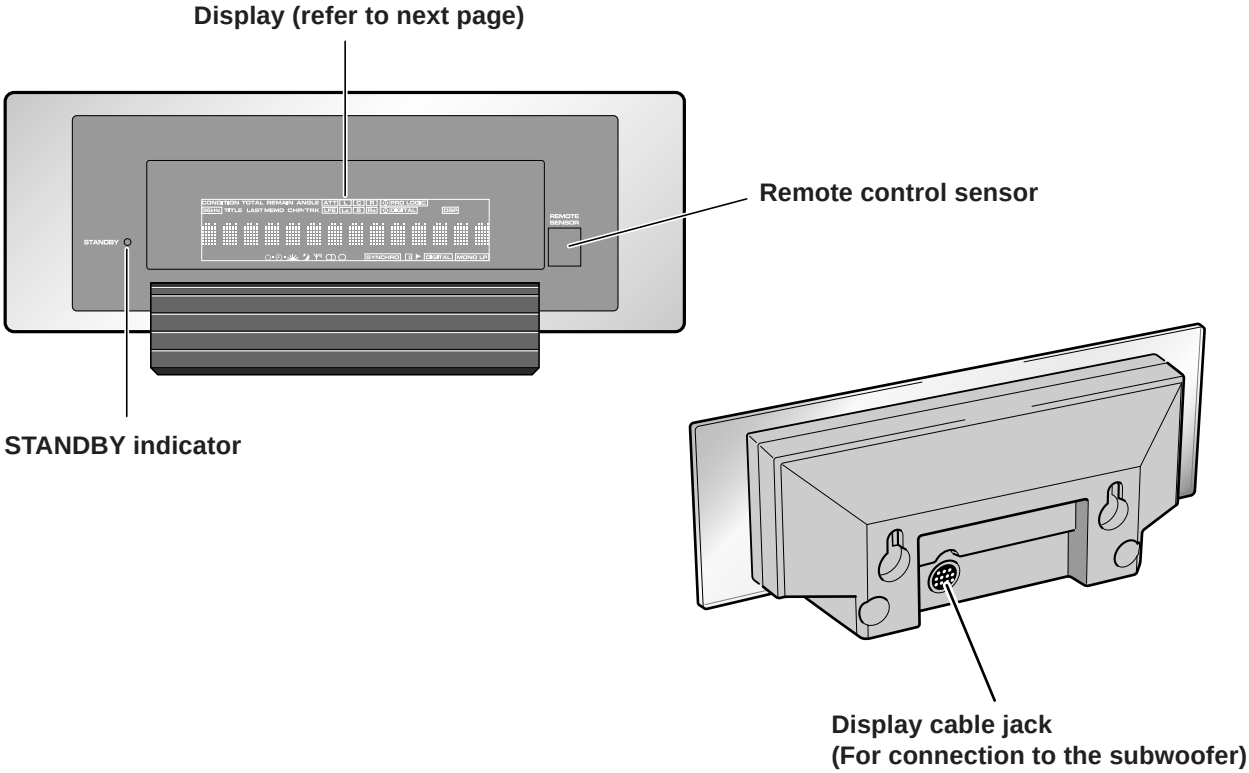


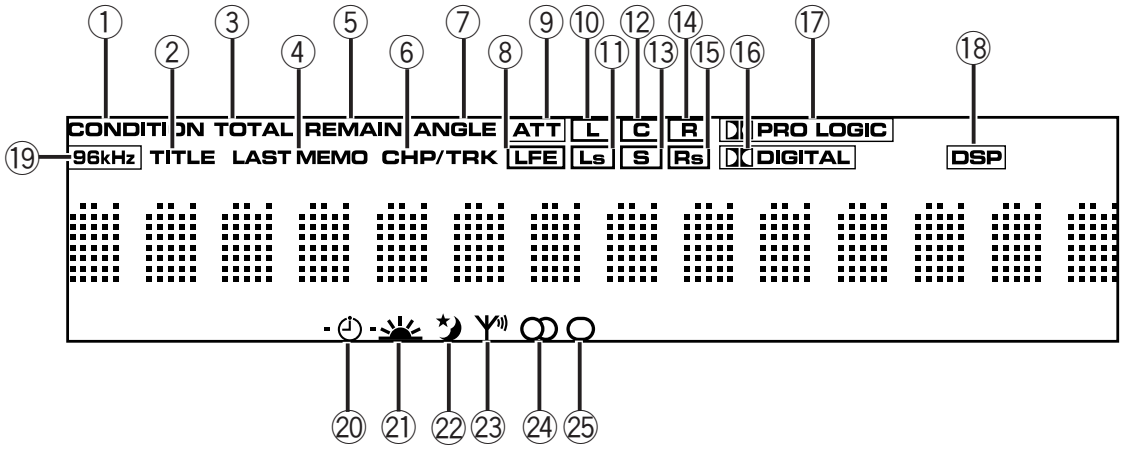
## ■ Powered Subwoofer (HTZ-SW7)




## ■ Display Unit (DU-HT7)



## ● Display




① **CONDITION**
Indicates playback settings (condition) are memorized.

② **TITLE**
Indicates a title playback.

③ **TOTAL**
Indicates total playback time of disc side currently playing.

④ **LAST MEMO**
Indicates that the location on disc where you last stopped watching is memorized.

⑤ **REMAIN**
Indicates remaining playback time.

⑥ **CHP/TRK**
Indicates playback of a chapter or track.

⑦ **ANGLE**
Indicates multi-angle playback.

⑧ **LFE**
LFE lights when the unit is set for Dolby Digital playback and there's a source channel set for LFE (Low Frequency Effect) reproduction. During actual playback, [LFE] lights.

⑨ **ATT**
Lights when the attenuator is ON.

⑩ **L** ⑪ **Ls** ⑫ **C** ⑬ **S** ⑭ **R** ⑮ **Rs**
Set channels light.

⑯ **DIGITAL**
Indicates Dolby Digital playback is in progress.

⑰ **PRO LOGIC**
Indicates Dolby PRO LOGIC playback is in progress.
* When Digital and PRO LOGIC light simultaneously
Indicates Dolby Digital playback of a Dolby Pro Logic encoded source is in progress.

⑱ **DSP**
Lights during DSP mode selection.

⑲ **96 kHz**
Lights during playback of a disc with a sampling frequency of 96kHz.

⑳ **Timer ON**
Lights during Wake-up Timer setting/operation.

㉑ **Wake-up Timer**
Lights when the Wake-up Timer is ON, and flashes during Wake-up Timer operation.

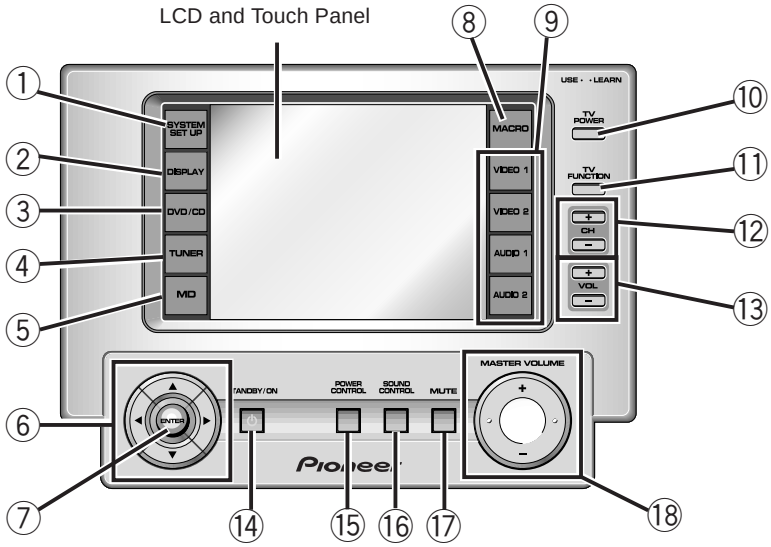
㉒ **Sleep Timer**
Lights when the Sleep Timer is ON and during Sleep Timer operation.

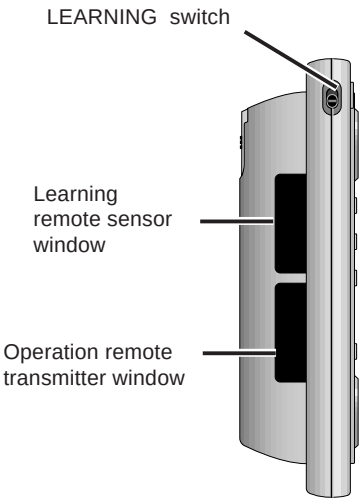
㉓ **Station Reception**
Lights during broadcast station reception.

㉔ **Stereo Station Reception**
Lights during stereo broadcast station reception.

㉕ **Mono**
Lights when the Monaural mode is selected.

## ■ Remote Control Unit




**Top View**

### System Buttons

① **SYSTEM SET UP button**
Displays the Set Up menu.

② **DISPLAY button**
Displays the Timer menu.

### Function Buttons

③ **DVD/CD button**
Displays the DVD/CD menu and switches DVD/CD functions.

④ **TUNER button**
Displays the Tuner menu and switches tuner functions.

⑤ **MD button**
Displays the MD menu.

### Cursor Buttons

⑥ **Cursor buttons**
Function differs depending on the selected function.

⑦ **ENTER button**
Function differs depending on the selected function.

### Macro Button

⑧ **MACRO button**
Displays the Macro menu.

### Auxiliary Function Buttons

⑨ **VIDEO 1, VIDEO 2, AUDIO 1, AUDIO 2 buttons**
Displays menus for components preset in the VIDEO 1, VIDEO 2, AUDIO 1, and AUDIO 2 buttons, and switches between these functions.

### LCD and Touch Panel

Provides function displays and a touch panel.

### TV Buttons

⑩ **TV POWER button**
Switches TV power ON/OFF.

⑪ **TV FUNCTION button**
Displays a TV operation menu, and switch TV input ON/OFF.

⑫ **CH buttons +/–**
Change the TV channel.

⑬ **VOL button +/–**
Change TV volume level.

### System Control Buttons

⑭ **STANDBY/ON button**
Switches power to the system ON/OFF.

⑮ **POWER CONTROL button**
Displays the Power Control menu.

⑯ **SOUND CONTROL button**
Displays the Sound Control menu.

⑰ **MUTE button**
Temporarily cuts volume level.

⑱ **MASTER VOLUME button**
Changes system volume level. (There are no LCD indications.)

### LEARNING Switch

Use for the Learning and Macro functions.

### Learning Remote Sensor Window

Use for the Learning and Macro functions. Use while pointing it at the remote transmitter window of another component's remote control.

### Operation Remote Transmitter Window

Point at the display unit when using the remote control to operate this system.

# ■ SPECIFICATIONS

## ■ Amplifier Section

### Continuous Power Output

**STEREO**

**Continuous average power output of 20 watts* per channel, min., at 8 ohms, from 200 Hz to 20,000 Hz with no more than 0.09%** total harmonic distorsion (front L/R).**

**Continuous average power output of 40 watts* subwoofer channel, min., at 8 ohms, from 20 Hz to 200 Hz with no more than 0.09%** total harmonic distorsion (subwoofer).**

**SURROUND**

Front, Center, Rear ..... 30 W, per channel (1 kHz, 0.8% T.H.D., 8 Ω)

Sub woofer ..... 45 W (100 Hz, 0.8% T.H.D., 8 Ω)

## ■ Speakers Section

**Satellite speakers HTZ-ST7**

Type ..... Sealed, antimagnetic (EIAJ)●

Speaker ..... 7cm (3 in.) (cone type)

Nominal impedance ..... 8 Ω

Frequency range ..... 110 to 20,000 Hz

Max. input ..... 30 W (EIAJ)

**Powered subwoofer HTZ-SW7**

Type ..... 20 cm (8 in.) bass reflex floor type, antimagnetic (EIAJ)●

Speaker

Woofer ..... 20 cm (8 in.) (cone type)

Nominal impedance ..... 8 Ω

Frequency range ..... 30 Hz to 350 Hz

Max. input ..... 50 W (EIAJ)

## ■ DVD Player (Audio) Section

S/N ratio ..... 115 dB (EIAJ)

Dynamic range ..... 97 dB (EIAJ)

Distortion ..... 0.003%

Frequency response

48 kHz sampling ..... 4 Hz to 22 kHz

96 kHz sampling ..... 4 Hz to 44 kHz

Wow & flutter ..... Below measurable levels (±0.001% W.PEAK)

## ■ DVD Player (Video) Section

Output level ..... 1 Vp-p (75 Ω)

Video Y output level ..... 1 Vp-p (75 Ω)

Video C output level ..... 286 mVp-p (75 Ω)

## ■ DVD (Other jacks) Section

Digital optical output (PCM/ DD (optical)) ..... Optical connector

Control output ..... Minijack

## ■ Tuner Section

**FM tuner**

Frequency range ..... 87.5 MHz to 108.0 MHz

Antenna ..... 75 Ω unbalanced

**AM tuner**

Frequency range ..... 530 kHz to 1.700 kHz (10 kHz step)

Antenna ..... loop antenna (supplied)

## ■ Power Supply Section

Power requirements ..... AC 120 V, 60 Hz

**DVD center**

Power consumption ..... 37 W

Standby power consumption ..... 0 W

**Powered subwoofer**

Power consumption ..... 135 W

Standby power consumption ..... 2 W

## ■ Miscellaneous

**DVD center unit**

Dimensions ..... 320 (W) x 274 (D) x 89 (H) mm

..... 131 (W) x 112 (D) x 36 (H) in.

Weight ..... 4.0 kg (8.8 lbs)

**Powered subwoofer**

Dimensions ..... 240 (W) x 445 (D) x 482 (H) mm

..... 98 (W) x 182 (D) x 197 (H) in.

Weight ..... 13.7 kg (30.14 lbs)

**Satellite speakers**

Dimensions ..... 150 (W) x 70 (D) x 90 (H) mm

..... 61 (W) x 29 (D) x 37 (H) in.

Weight ..... 0.50 kg (1.1 lbs)

**Display**

Dimensions ..... 210 (W) x 62 (D) x 86 (H) mm

..... 86 (W) x 25 (D) x 35 (H) in.

Weight ..... 0.23 kg (.51 lb)

**Remote control**

Dimensions ..... 168 (W) x 123 (D) x 42 (H) mm

..... 69 (W) x 50 (D) x 17 (H) in.

Weight ..... 0.30 kg (.66 lb)

Operating conditions:

Temperature ..... +5°C to +35°C (+41°F to 95°F)

Humidity ..... 5% to 85% (without condensation)

## ■ Supplied Items

Remote control ..... 1

Touch pen ..... 1

Display unit ..... 1

AM loop antenna ..... 1

FM antenna ..... 1

Feet ..... 5

Digital audio cable ..... 1

Video cable ..... 1

Alkaline batteries (AA/LR6) ..... 4

Power cord ..... 1

Display cable ..... 1

Control cable ..... 1

Mini stands ..... 5

Speaker cords (5 m/16 ft. 3 in.) ..... 3

Speaker cords (10 m/32 ft. 6 in.) ..... 2

Mounting screws ..... 5

Cord labels ..... 1

Non-skid pads ..... 1

Operating instructions (Setting up the HTZ-7) ..... 1

Operating instructions (Basic/Detailed) ..... 1

Warranty ..... 1

* ***Measured pursuant to the Federal Trade Commission's Trade Regulation rule on Power Output Claim's for Amplifiers.***

** ***Measured by Audio Spectrum Analyzer.***

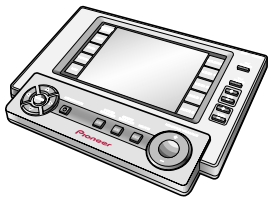
*** ***Design and specifications are subject to change without notice.***

● **Antimagnetic design (EIAJ) speaker system conforms to the basic EIAJ standards.**

## Accessories

### HTZ-C7

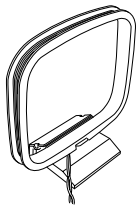
- Remote control (CU-HT004) (AXD7189)



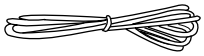
- Touch pen

(Attached to the top part of the remote control on the rear.)

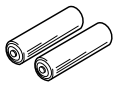
- AM loop antenna (ATB7009)



- FM antenna (ADH7004)



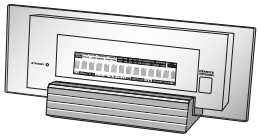
- Alkaline batteries (size AA/LR6) × 4



- Operating instructions (Setting up the HTZ-7)
- Operating instructions (Basic/Detailed)
- Warranty

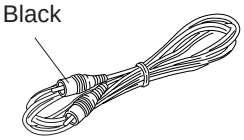
### HTZ-SW7

- Display unit (DU-HT7)

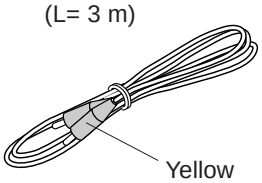


- Feet × 5 (SXK1046)

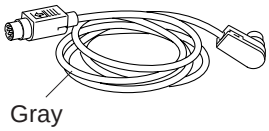
- Digital audio cable (ADE7028) (L= 3 m)



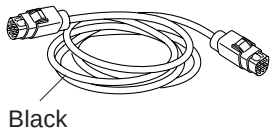

- Video cable (ADE7036) (L= 3 m)



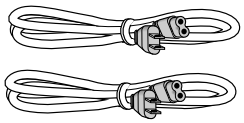

- Display cable (ADE7027) (L= 3 m)



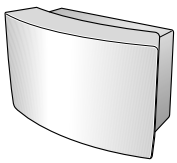

- Control cable (ADE7031) (L= 3 m)



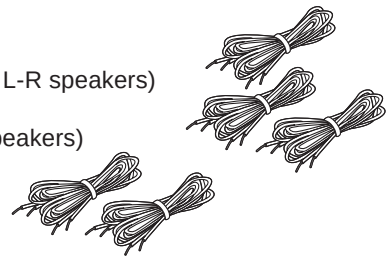

- Power cords × 2 (ADG7021)



- Satellite speakers × 5 (HTZ-ST7)

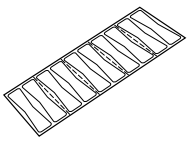


- Speaker cords
  5m (16 ft. 3 in.) × 3 (for center, front L-R speakers) (SDS1065) (L= 5 m)
  10m (32 ft. 6 in.) × 2 (for rear L-R speakers) (SDS1066) (L= 10 m)

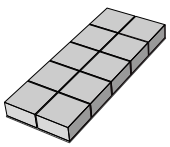


- Mini stands × 5 (SNK2312)

- Cord labels (SRW1066)



- Non-skid pads (SEP1189)



- Installation screws × 5 (BMZ40P120FMC)